



# ONEPHASE

## PRODUCTS CATALOGUE

WE MAKE IT HAPPEN



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## Fast and reliable rock reinforcement with guaranteed mechanical properties



### Fast installation

**Immediate Support:** The anchors provide instant stabilization as they are driven into the rock, creating friction that holds the surrounding material in place.

**Efficiency:** The straightforward installation process reduces downtime and increases productivity in mining operations.

### Instant load bearing

**Frictional Resistance:** They generate friction along the entire length of the anchor when inserted into a hole, providing immediate support.

### High safety

**Castings Friction bolt** is made of a steel with exceptional formability properties, ensuring a safe and reliable performance indifferent rock conditions.

### An environmentally friendly solution

**Castings Friction bolt** is a safe and environmentally friendly way to speed up your tunneling operation. No need for chemicals or cement grout to anchor the bolt. It creates a better working environment without any risk of spreading harmful substances.

Ready for all underground work

- Underground mining
- Underground civil engineering work
- Tunneling

## Why the perpendicular installation is critical point ?

Bolts should be installed as near perpendicular to the rock surface as possible. This ensures the welded ring is in contact with the plate all round. Bolts not perpendicular to the plate and rock surface will result in the ring being loaded at a point which may cause early failure. Unlike other rock bolts, spherical seat washers are not available to correct for angularity with frictional stabilizers.

## The working principle

A pull collar fixing at the ring end enables load testing during the bolt installation. The tapered end of friction bolt can be easily inserted into the drilled holes. Friction bolt can be installed with either hand held or mechanized equipment, such as a jackdrill, a stopper, a roof bolting jumbo, or any other type of drill.

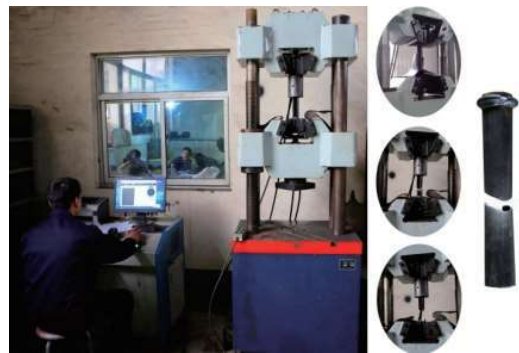
## quality

Welds on black bolt show the weld quality of our bolt, which is completely reached the highest international standard, and all of it is based on our strict quality management control (GMC), and quality and safety accident alerting system which already accompanied with production processes, to make sure a consistent and stable quality all through the production.



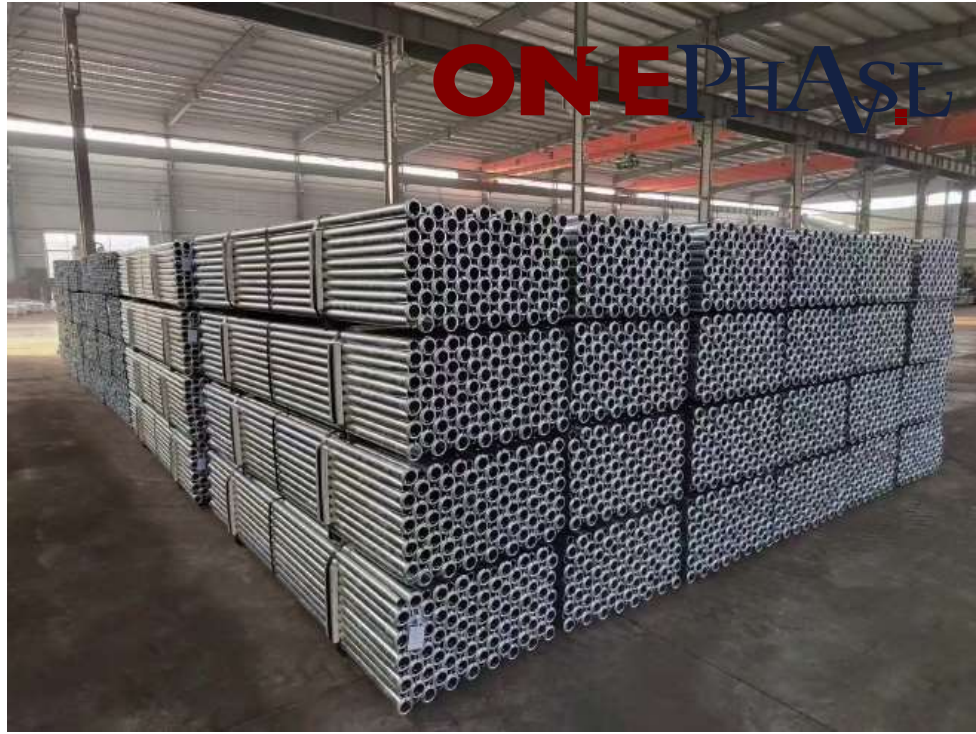
### How we make friction bolt

- Manufactured 100 % from high-quality Nordic steel
- Quality assured and certified rock reinforcement product
- Traceability throughout the manufacturing process
- Short delivery times
- Reliable logistics



We have a double-tracks quality control system which run together going through the each production processone tracks by our professional inspector who is responsible to our management who will make full inspection for each part of products. Another tracks by production operators who is responsible to production department who make day to day inspection, and a job-traveller will go all the way from raw material to the final products to records the inspection results. That will make our quality control processes covered by double insurance, and be sure everything under control from steel mill material to the final products delivery to our customers.





"Our high-effective PLC-Controlled Rollformer and Auto Welders can keep our production capacity staying in top ranking in this line, at the same time to make sure the quality of our Split Set Bolt to meet the first class interational standard requirements, that let us to have an chance to supply our split set bolts (friction bolt stabilizers) to many famous customers in the world."

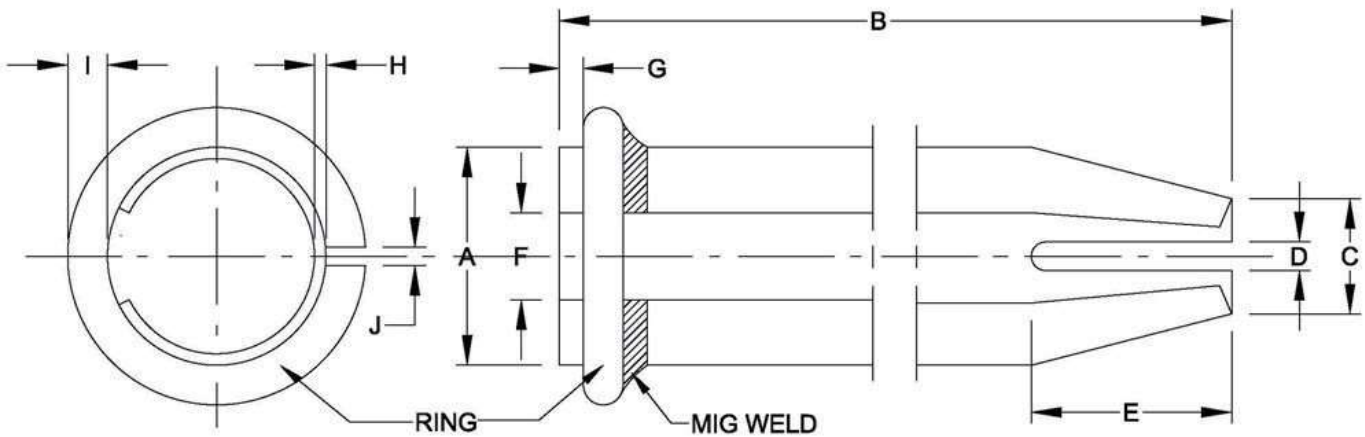


Also available with corrosion protection

RitonCasting's friction bolts can be protected against corrosion by a hot-dip galvanized surface treatment. This will save your production a step time and money.



## Technical properties for FB-47 split set bolt

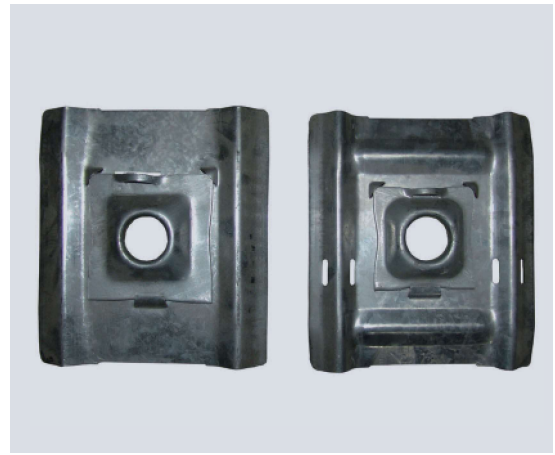


Dimensions			Physical Properties		Technical Data	
Bolt Diameter	A	47mm	Yield strength	Min. 345 Mpa (120KN)	Recommended Normal Bit Size	41-45mm
Bolt Length	B	0.9-3.0m		Typical 445Mpa(150KN)		
Taper End Diameter	C	38mm	Tube Ultimate Tensile Strength	Min.470 Mpa (160KN)	Typical Breaking Capacity	178KN
Taper Slot wide	D	2mm		Typical 530Mpa(180KN)		
Taper Length	E	100mm	Mass per Meter	2.71 Kgs	Min. Breaking Capacity	133KN
Bolt slot Wide	F	25mm				
Ring Location	G	8mm	Cross SectionArea	345 mm <sup>2</sup>	Recommended Initial Anchorage	6-10Tons (53-89 KN)
Material Guage	H	3/3.2mm				
Ring Wire Guage	I	8mm	Hole DiameterRange	43-45.5mm	Ultimate Axial Strain	Typical 21% (Thk<16mm)
Ring Open Gap	J	6-7mm				

\* Other lengths on request

## COMBI PLATE (USED WITH SPLIT SET BOLT)

As the most popular combination support plate, combi plate used widely in mining, slope, tunnel applications. Used together with split set bolt, it can offer a stable and safety support to the rock surface and help to fix and hang other things which may be necessary in the ground support application.



## COMBI PLATE FEATURES

- Incorporate a plate washer attached to a standard strata plate to give a superior product with enhanced performance. Designed with a profile that gives greater strength by strategically pressing the vees, placing the perimeter of plate in tension
- Has "user friendly" rounded corners
- Allows faster installation by eliminating the handling of two separate components
- Can be facilitate flat and domed plates (up to 1 50mm square) to increase rock surface coverage area
- Can be utilised with lighter domed or flat plates to provide an economic advantage over heavier
- Is suitable for direct placement onto the rock surface or used against welded mesh
- Are supplied with a slot for suspension of light services and some domed plates include a services support lug



## Delivered to suit your needs


Each production stage from steel manufacturing to profiling and assembling of rock bolts is covered by RitonCasting's own production and quality control chain. Each individual bolt is marked with a unique code, which enables full traceability.





RitonCasting's Split set is delivered in standard bundles, loaded on trucks or in 20' containers. The bolts may be delivered in full container load (FCL) or less container load (LCL) at customer request.

RitonCasting's delivery performance is high due to effective logistics and short delivery times, which makes RitonCasting's friction rock bolts a cost-effective solution worldwide.

# CASTING EQUIPMENT

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To be continued



### Jaw Crusher

The jaw crusher is one of the commonly applied crushing equipment for crushing rocks. It has already become the equipment most widely used, for the reasons of simple structure, convenient operation, convenient maintenances and durable. It widely used as primary and secondary crushing equipment to crush material with compression resistance less than 320MPa, and it widely used for coarse, intermediate and fine crushing operations.



### Technical Specification

Model	Max. Particle	Discharge Size	Capacity	Motor Power	Overall Dimension	Weight
PE-150×250	125	10-40	2-6	5.5	900×750×950	1.1
PE-250×400	210	20-60	8-16	15	1450×1280×1300	3
PE-250×500	210	20-80	13-21	18.5	1450×1350×1350	4
PE-400×600	350	40-100	14-36	30	1700×1700×1650	6
PE-500×750	400	50-120	30-80	45	2000×1950×1900	11
PE-600×900	480	75-200	56-192	75	2400×2230×2400	18
PE-700×1000	550	80-210	65-225	75	2400×2280×2400	19.5
PE-750×1060	630	80-235	108-256	90	2500×2370×2780	26
PE-900×1200	750	95-265	186-396	110	3200×2820×3260	45
PE-1100×1400	900	120-260	200-450	132	3850×3050×4000	75
PE-1200×1500	1020	150-300	300-550	160	4050×3150×4200	90
PE-1500×1800	1200	220-550	380-720	220	5100×4700×4300	122
PE-1600×2100	1250	280-650	500-880	355	5600×5020×4950	169
PEX-150×750	120	10-40	8-25	15	1320×1570×1050	3.1
PEX-150×1000	140	15-45	12-35	22	1400×1810×1250	5
PEX-200×1000	160	15-50	12-40	22	1530×1810×1250	5
PEX-250×750	210	20-60	10-40	22	1480×1710×1470	5.5
PEX-250×1000	210	20-60	15-50	30	1530×1920×1380	6.5
PEX-350×750	300	20-60	20-60	30	1650×1850×1640	8.5
PEX-200×1200	160	20-60	20-70	37	1650×2150×1460	8.5
PEX-250×1200	210	20-60	20-70	45	1650×2150×1460	8.5
PEX-300×1300	250	20-90	30-90	55	1870×2400×1730	11
PEX-300×1500	250	20-90	45-120	75	1900×2660×1830	15

Any changes of technical parameters, there is no future notice.



CS series high-efficiency Symons cone crusher concentrates on the specialty of high-frequency, optimization of cavity and reasonable impact. It is based on the conceptions of laminated crushing principle and more crushing and less grinding. It is researched and designed by our company, according to the customers' requirements. It is suitable for processing gravels, ores, slag and construction waste and used for second, three or four level crushing of stones and slag.

### Technical Specification

Type	Model	□ (mm) Inlet Size	Discharge Size	(t/h) Capacity	Cone Large End Diameter	(kw) Motor Power			Dilute oil station	(mm) Overall Dimension	Wt
						Model	power	Voltage			
Standard Type	PYS-B1213	131	9-31	63-167	1200	Y315M <sub>2</sub> -6	110	380	100	2656×1974×3112	16.8
	PYS-B1215	156	13-38	99-198	1200	Y315M <sub>2</sub> -6	110	380	100	2656×1974×3112	16.8
	PYS-B1219	191	19-51	140-306	1200	Y315M <sub>2</sub> -6	110	380	100	2656×1974×3112	16.8
	PYS-B1225	250	25-51	189-315	1200	Y315M <sub>2</sub> -6	110	380	100	2656×1974×3112	16.8
	PYS-B1313	137	13-31	108-180	1295	J5126-6	155	380	125	4809×2354×2354	27.6
	PYS-B1321	210	16-38	130-252	1295	J5126-6	155	380	125	4809×2354×2354	27.6
	PYS-B1324	241	19-51	171-347	1295	J5126-6	155	380	125	4809×2354×2354	27.6
	PYS-B1325	259	25-51	243-356	1295	J5126-6	155	380	125	4809×2354×2354	27.6
	PYS-B1620	209	16-38	180-324	1676	Y450-12	220	6000	200	3911×2870×3771	43.3
	PYS-B1624	241	22-51	256-414	1676	Y450-12	220	6000	200	3911×2870×3771	43.3
	PYS-B1626	269	25-64	297-630	1676	Y450-12	220	6000	200	3911×2870×3771	43.3
	PYS-B1636	368	38-64	428-675	1676	Y450-12	220	6000	200	3911×2870×3771	43.3
	PYS-B2127	278	19-38	378-720	2134	Y500-12	315	6000	250	4613×3251×4732	67.4
	PYS-B2133	334	25-51	603-990	2134	Y500-12	315	6000	250	4613×3251×4732	67.4
	PYS-B2136	369	31-64	783-1260	2134	Y500-12	315	6000	250	4613×3251×4732	67.4
	PYS-B2146	460	38-64	873-1351	2134	Y500-12	315	6000	250	4613×3251×4732	67.4
	PYS-BC2127	278	19-38	540-1026	2134	Y500-12	400	6000	250	5930×3771×4372	104.1
	PYS-BC2133	334	25-51	855-1413	2134	Y500-12	400	6000	250	5930×3771×4372	104.1
	PYS-BC2136	369	31-64	1116-1800	2134	Y500-12	400	6000	250	5930×3771×4372	104.1
	PYS-BC2146	460	38-64	1242-1926	2134	Y500-12	400	6000	250	5930×3771×4372	104.1
Standard Large Cavity											

Type	Model	□ (mm) Inlet Size	Discharge Size	(t/h) Capacity	Cone Large End Diameter				Dilute oil station	(mm) Overall Dimension	Wt
						Model	power	Voltage			
Short head Type	PYS-D1205	57	5-16	50-132	1200	Y315M <sub>2</sub> -6	110	380	100	2560×1942×2928	17.6
	PYS-D1207	73	10-16	90-144	1200	Y315M <sub>2</sub> -6	110	380	100	2560×1942×2928	17.6
	PYS-D1208	89	13-19	140-180	1200	Y315M <sub>2</sub> -6	110	380	100	2560×1942×2928	17.6
	PYS-D1211	117	13-25	144-216	1200	Y315M <sub>2</sub> -6	110	380	100	2560×1942×2928	17.6
	PYS-D1306	64	3-16	36-162	1295	J5126-6	155	380	125	2958×2254×3156	22.6
	PYS-D1308	89	6-16	81-162	1295	J5126-6	155	380	125	2958×2254×3156	22.6
	PYS-D1310	105	10-25	108-225	1295	J5126-6	155	380	125	2958×2254×3156	22.6
	PYS-D1313	133	16-25	207-234	1295	J5126-6	155	380	125	2958×2254×3156	22.6
	PYS-D1607	70	5-13	90-207	1676	Y450-12	220	6000	200	3971×2870×3771	43.9
	PYS-D1608	89	6-19	136-281	1676	Y450-12	220	6000	200	3971×2870×3771	43.9
	PYS-D1613	133	10-25	189-333	1676	Y450-12	220	6000	200	3971×2870×3771	43.9
	PYS-D1614	133	13-25	253-336	1676	Y450-12	220	6000	200	3971×2870×3771	43.9
	PYS-D2110	105	5-16	190-408	2134	Y500-12	315	6000	250	4130×3251×4454	70.1
	PYS-D2113	133	10-19	354-508	2134	Y500-12	315	6000	250	4130×3251×4454	70.1
	PYS-D2117	178	13-25	545-599	2134	Y500-12	315	6000	250	4130×3251×4454	70.1
PYS-D2120	203	16-25	508-653	2134	Y500-12	315	6000	250	4130×3251×4454	70.1	
PYS-DC2110	105	5-16	218-463	2134	Y500-12	400	6000	250	4613×3771×4900	89.5	
PYS-DC2113	133	10-19	404-508	2134	Y500-12	400	6000	250	4613×3771×4900	89.5	
PYS-DC2117	178	13-25	517-680	2134	Y500-12	400	6000	250	4613×3771×4900	89.5	
PYS-DC2120	203	16-25	580-744	2134	Y500-12	400	6000	250	4613×3771×4900	89.5	
Short Head Large Cavity											

Any changes of technical parameters, there is no future notice.



## Impact Crusher



Impact crusher have high reduction ratio, unequaled output, uniform production size, compact process, simple construction, easy operation and maintenance. And it have widely applied in metallurgy, building materials, chemical industries. This machine is suitable for crushing hard rock like quarry stone with compression strength up to 350Mpa. (They are ideal for crushing medium hard brittle materials of coarse, secondary and fine crushing stages, the cubic shape of the products.)

### Technical Specification

Model	Rotor Diameter	Rotor length	(mm) Max. Particle	Capacity	Motor Power	Weight
PF-0504	500	400	100	5-8	7.5	1.5
PF-0607	640	700	120	10-20	30	4.1
PF-1007	1000	700	250	15-30	37	6.5
PF-1010-1	1000	1000	250	30-80	75	12.7
PF-1210-1	1250	1050	300	60-120	110	14.5
PF-1212-1	1250	1250	300	80-140	132	16.8
PF-1214-1	1250	1400	300	100-160	132	19.5
PF-1310-1	1300	1050	300	70-140	132	14.2
PF-1315-1	1300	1500	300	100-180	180	21.5
PF1320-1	1300	2000	300	150-250	200	24.5
PF-1520-1	1500	2000	300	180-320	220	29.5
PF-1622-1	1600	2200	350	400-600	250	101
PF-1822-1	1800	2200	400	500-800	280	118

Any changes of technical parameters, there is no future notice.



## Hammer Crusher



Hammer Crusher is the best most common kind of crushing equipment. It has the features of high crushing ratio (typically 10-25, higher up to 50), high production capacity, uniform product, low energy consumption, simple structure, reliable quality, easy maintenance, etc. Features: High wear-resistant hammerhead, Small investment, high recovery yield.

### Technical Specification

Model	Intel Size	(mm) Max. Particle	Adjusting Range of the Discharging Outlet	Capacity	Power
PC375×300	375×300	100	3-15	1.5	5.5
PC600×400	600×400	100	10-35	7-15	18.5
PC600×400	600×400	200	10-35	15-26	45
PC800×800	800×800	350	20-60	30-60	37
PC800×1000	800×1000	400	20-60	50-80	55
PC800×1200	800×1200	400	20-60	70-90	75
PC800×1800	800×1800	400	20-60	90-120	110
PC1000×1000	1000×1000	500	20-80	70-100	75
PC1000×1250	1000×1250	500	20-80	80-120	90
PC1000×1500	1000×1500	500	20-80	120-160	110
PC1250×1500	1250×1500	600	20-100	140-180	132
PC1250×2000	1250×2000	600	20-100	160-220	160
PC1000×1000	<400	<15	30-85	132	8.6

Any changes of technical parameters, there is no future notice.





## Ball Mill



Ball mill is a mineral processing machine for milling the materials into powders after they are crushed. This type of ball mill is equipped with a

number of steel balls in its cylinder as grinding medium. Ball mills are suitable for grinding all kinds of ores and other materials. They are widely used in mineral processing, building materials and chemical industry, and can be divided into two types, wet ball mill and dry ball mill. According to the different of the discharging, it can be divided into two types: grid type and overflow type.

## Overflowing Type Ball Mill

### Technical Specification

Model	MQY2130	MQY2136	MQY2736	MQY2740	MQY3245	MQY3254	MQY3650	MQY3660	MQY5004
Cylinder Diameter (mm)	φ2100		φ2700		φ3200		φ3600		φ5030
Shell Length (mm)	3000	3600	4000	4500	5400	5400	5000	6000	6400
Rotational Direction	Left / Right								
Max. Ball Load (t)	18	20	40	40	61	73	86	102	218
Output (t/h)	Based on working conditions								
Power (kw)	180	210	400	800	1000	1250	1250	1250	2600
Rotating Speed (r/min)	735		187.5		167		150		200
Voltage (V)	6000								
Length (m)	8.8	9.3	11.4	11.85	15.6	15.8	17.16	17	14
Width (m)	4.7		5.7		6.7		7.7		8.3
Height (m)	4.4		4.5		5.2		6.3		9.0
Total Weight (t)	49	55	79	85	112	121	145	158	290
Remark	Motor weight is excluded from the total weight								

Any changes of technical parameters, there is no future notice.

## Wet Grate Type Ball Mill

### Technical Specification

Model	Cylinder Rotating Speed (r/min)	Ball Load (t)	Feeding Size (mm)	Discharging Size (mm)	Output (t/h)	Motor Power (kw)	Total Weight (t)
φ2100×3000	23.7	15	≤25	0.074-0.4	6.5-36	210	49
φ2100×4500	23.7	24	≤25	0.074-0.4	8-43	245	56.8
φ2400×5200	21	30	≤25	0.074-0.4	8.5-60	680	70
φ2700×3600	20.5	40	≤25	0.074-0.4	12-80	475	81
φ2700×4500	20.5	48	≤25	0.074-0.4	12-90	475	102
φ3200×4500	18	65	≤25	0.074-0.4	Based on working conditions	800	123
φ3600×5500	17	90	≤25	0.074-0.4		1400	171.8
φ3600×6000	17	110	≤25	0.074-0.4	1600	189	

Any changes of technical parameters, there is no future notice.



## Autogenous Mill

### Technical Specification

Model	MZ52409	MZ54014	MZ55518	MZ56030	MZ57525	MZ57528
Cylinder Diameter (mm)	2400	4000	5500	6000	7500	7500
Cylinder Diameter (mm)	900	1400	1800	3000	2500	2800
Max. Feeding Size (mm)	≤250	< 350	< 400	< 400	< 400	< 400
Output (t/h)	Based on working conditions					
Power (kw)	55	245	800	1250	2500	2500
Rotating Speed (r/min)	600	735	167	428.5	375	375
Voltage (V)	220	380	3000/6000	6000	6000	6000
Lubrication Station (L/min)	16	35	50	100	100	100

Any changes of technical parameters, there is no future notice.



### Technical Specification

Model	MBS0918	MBS0924	MBS1530	MBS2130	MBS2736	MBS2740	MBS3245	MBS3645	MBS3654
Cylinder Diameter (mm)	900	1500	2100	2700	3600	4000	4500	5400	6000
Shell Length (mm)	1800	2400	3000	3600	4000	4500	5400	6000	6600
Effective Volume (m <sup>3</sup> )	1	1.32	5	9	18.5	20.6	32.8	43	50
Max. Ball Load (t)	2.5	3.5	8	25	49	51	50	110	124
Speed (r/min)	35.4	35.4	26	20.9	18	18	16	14.7	15.1
Output (t/h)	Based on working conditions								
Power (Kw)	380								
	0.62-3.2	0.81-4.3	2.4-7.5						
Rotating Speed (r/min)	22	30	95	210	400	400	630	1250	100
	730	730	725	735	187.5	187.5	167	150	167
Voltage (V)	380								
	4.98	5.67	7.6	8.7	11.9	12.3	14.6	15.2	15.9
Length (m)	2.37	3.28	3.2	4.8	5.7	5.7	7	8.8	8
	2.02	2.02	2.77	4.4	4.7	4.7	5.3	6.8	6.7
Width (m)	380								
	5.7	5.88	17.14	42.18	69.7	72	109	159.9	150
Height (m)	380								
	Motor weight is excluded from the total weight								
Total Weight (t)	Motor weight is excluded from the total weight								
Remark	Motor weight is excluded from the total weight								

Any changes of technical parameters, there is no future notice.



Ball Mill



### Technical Specification

Model	MQR2745	MQR3254	MQR3562
Cylinder ID (mm)	2700	3200	3500
Shell Length (mm)	4500	5400	6200
Effective Volume (m <sup>3</sup> )	23.5	39.5	55.6
Material	Steel ball		
	3.8	6	8.7
Max. Load (t)	27.3	44	64
Speed (r/min)	17.86	16.5	15.47
Power (Kw)	400	630	1000
Rotating Speed (r/min)	735		
	735	740	1000
Voltage (V)	6000		
	4.5	4.96	6.74
Speed Ratio i	735		
	5.5	11	11
Power (Kw)	380		
	380	380	380
Voltage (V)	720		
	400	500	355
Speed (r/min)	1.8		
	1.8	1.94	2.056
Speed Ratio i	11		
	380	380	380
Output Revolutions (r/min)	1500		
	25.4	23.25	23.25
Power (Kw)	59		
	30	50	70
Voltage (V)	13400×7250×5700		
	30	50	70
Speed (r/min)	30		
	30	50	70
Output Revolutions (r/min)	13400×7250×5700		
	30	50	70
Speed Ratio i	Motor & electronic controlling system weight is excluded from the total weight		
	30	50	70
Output (t/h)	Motor & electronic controlling system weight is excluded from the total weight		
Overall Dimensions	13400×7250×5700		
Total Weight (t)	17025×7707×6280		
Remark	Motor & electronic controlling system weight is excluded from the total weight		

Any changes of technical parameters, there is no future notice.



## Screw Classifier



Technical Specification

Type	Model	Spec	Screw Diameter (mm)	Screw Diameter (mm)	Cage			Production Capacity (24h)		Driving Motor Power (kw)	Hoist Motor Power (kw)	Weight (t)
					Length (mm)	Width (mm)	Dip(°)	Overflow Qty	Sand Circulating Qty			
Highwear Single Screw	FG5	φ500	500	9.2	3900	560	14°-10.5°	21-75	145-260	3		1.6
	FG7	φ750	750	7.8	5367	830	14°-10.5°	65-154	255-564	3		2.9
	FG10	φ1000	1000	7	6500	1110	14°-10.5°	85	473-1026	5.5		4.5
	FG12	φ1200	1200	5.6,7	6500	1372	14°-10.5°	150	1145-1600	5.5	2.2	8.8
	FG15	φ1500	1500	2.5,4,6	8235	1664	14°-18.5°	235	1140-2740	7.5	2.2	11.7
	FG20	φ2000	2000	5.4	8400	2396	14.5°-18.5°	400	5940	15	2.2	20.5
	FG24	φ2400	2400	3.6,5.4,6.3	9160	2600	14°-18.5°	580	6800	11/15	2.2	26.7
	FG30	φ3000	3000	3.17	12500	3200	14°-18.5°	890	11650	22	4	44.88
	2FG12	φ1200	1200	5.6,7	6500	2620	14°-10.5°	300	2290-3200	5.5×2	2.2×2	15.8
	2FG15	φ1500	1500	2.5,4,6	8265	3200	14°-18.5°	460	2240-2360	7.5×2	2.2×2	22.1
Highwear Double Screw	2FG20	φ2000	2000	5.4	8400	4296	14.5°-18.5°	800	11880	15×2	2.2×2	36.4
	2FG24	φ2400	2400	3.6,5.4,6.3	9160	5040	14°-18.5°	1160	13600	11×2/15×2	2.2×2	45.9
	2FG30	φ3000	3000	3.17	12500	6300	14°-18.5°	1785	23300	22×2	4×2	77.08
	FC10	φ1000	1000	6-7.4	6500	1110	14°-10.5°	75	473-1026	5.5		6
Immersed Single Screw	FC12	φ1200	1200	5.6,7	8400	1372	14°-10.5°	120	1170-1630	7.5	2.2	11
	FC15	φ1500	1500	2.5,4,6	10500	1664	14°-18.5°	185	1140-2740	7.5	2.2	15.3
	FC20	φ2000	2000	5.4	12800	2396	14.5°-18.5°	400	5940	18.5	2.2	29
	FC24	φ2400	2400	3.6	11130	2600	14°-18.5°	455	6800	18.5	2.2	37
	FC30	φ3000	3000	3.2	14300	3200	14°-18.5°	705	11650	30	4	43.5
	2FC12	φ1200	1200	6	8400	2620	14°-10.5°	240	1170-2800	7.5×2	2.2×2	19.6
	2FC15	φ1500	1500	2.5,4,6	10500	3200	14°-18.5°	370	2240-5360	7.5×2	2.2×2	27.5
	2FC20	φ2000	2000	5.4	12800	4280	14.5°-18.5°	640	7780-11880	18.5×2	2.2×2	50
	2FC24	φ2400	2400	3.6	11160	5040	14°-18.5°	910	13700	18.5×2	2.2×2	65.3
	2FC30	φ3000	3000	3.17	14300	6300	14°-18.5°	1410	23300	30×2	4×2	84.9

Any changes of technical parameters, there is no future notice.



## Magnetic Separator



It is widely used in roughing and cleaning operations of strong magnetic minerals. The magnetic separator can be equipped with three kinds of grooves, namely semi-counter-current groove, counter-current groove and counter-current groove, to meet different selection requirements.

Technical Specification

Model	Tank Type	(KA/m) Magnetic Strength of Cylinder Surface (KA/m)	Cylinder Rotation Speed (r/min)	Feeding Size (mm)	Output (t/h)	Motor Power (Kw)	Weight (t)
CTB612	Semi-counter-current	> 1200	40	0-0.5	10-12	1.5	1
CTB618	Semi-counter-current	> 1200	40	0-0.6	12-25	2.2	1.4
CTB712	Semi-counter-current	> 1200	35	0-0.5	15-30	2.2	1.5
CTB718	Semi-counter-current	> 1200	35	0-0.5	20-45	3	2.2
CTB1018	Semi-counter-current	> 1200	22	0-0.5	40-75	5.5	4.2
CTB1024	Semi-counter-current	> 1200	22	0-0.5	52-100	7.5	5.4
CTB1030	Semi-counter-current	> 1200	22	0-0.5	70-150	11	6.1

Any changes of technical parameters, there is no future notice.



## Permanent Magnetic Reclaimer of Mine Tailing

Technical Specification

Model	PS1005	PS1008	PS1008
Disc Diameter × Number	φ1000×4	φ1000×6	φ1000×8
Recovered Ore Grade	30-40	30-40	30-40
Grain Size (mm)	0.5-1.5	0.5-1.5	0.5-1.5
Output (t/h)	140	240	400
Motor Power (Kw)	3.0	4.5	7.5
Weight (t)	2000	2500	3000



Any changes of technical parameters, there is no future notice.



## Dry Permanent Magnetic Drum Separator

### Technical Specification

Model	Spec	Cylinder		Rotating Speed (r/min)	Magnetic Strength of Cylinder Surface (mt)	Separation Size (mm)	Separation Permissible Humidity (%)	Output (t/h)	Motor Power (Kw)
		Diameter (mm)	Length (mm)						
CTG613	600×1300	600	1300	150-300	105	1.5-0	≤1	4.5-7.5	3
CTG613	600×1300	600	1300	150-300	115	1.5-0	≤2	7.5-14	3
CTG613	600×1300	600	1300	75-15	125	5-0	≤3	14-20	3
CTG618	600×1800	600	1800	40-50	120	5-0	≤3	15-30	3
CTG718	750×1800	750	1800	30-40	120	5-0	≤3	20-45	3
CTG918	900×1800	900	1800	30-40	160	8-0	≤3	25-55	4
CTG10518	1050×1800	1050	1800	20-30	160	8-0	≤3	40-75	4
CTG10521	1050×2100	1050	2100	20-30	160	8-0	≤3	45-85	5.5
CTG10524	1050×2400	1050	2400	20-30	160	8-0	≤3	52-100	5.5
CTG10530	1050×3000	1050	3000	20-30	160	8-0	≤3	60-120	5.5

Any changes of technical parameters, there is no future notice.



## XJ Mechanical Agitating Flotation Cell With Auto Air Suction

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Capacity (m <sup>3</sup> /min)	Dia of Impeller (mm)	Revolution of Impeller (r/min)	Motor Power (kw)		Weight of Cell (kg)
					For Agitating	For Scraper	
XJ1	0.13	0.05-0.16	200	600	1.5	0.55	1272
XJ2	0.23	0.12-0.28	250	504	3	0.55	1558
XJ3	0.35	0.18-0.4	300	483	1.5	0.75	1720
XJ6	0.62	0.3-0.9	350	400	3	1.1	3041
XJ11	1.1	0.6-1.6	500	330	5.5	1.1	5204
XJ28	2.8	1.5-3.5	600	280	11	1.1	9295
XJ58	5.8	5-7	750	240	22	1.5	



## XJQ Flotation Cell

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Capacity (m <sup>3</sup> /min)	Dia of Impeller (mm)	Revolution of Impeller (r/min)	Motor Power (kw)		Weight of Cell (kg)
					For Agitating	For Scraper	
XJQ40	4	2-5	400	290/315	11	1.1	3100
XJQ80	8	4.2-10	560	205/225	22	1.1	5146
XJQ160	16	8-20	700	170/180	30	1.5	9314
XJQ280	28	14-35	760	166/185	55	1.5	15940



## SF Mechanical Agitating Flotation Cell With Auto Air Suction

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Capacity (m <sup>3</sup> /min)	Dia of Impeller (mm)	Revolution of Impeller (r/min)	Motor Power (kw)		Weight of Cell (kg)
					For Agitating	For Scraper	
SF0.37	0.37	0.2-0.4	300	352-442	1.5	0.55	940
SF0.7	0.7	0.3-1.0	350	336	3	1.1	1940
SF1.2	1.2	0.6-1.2	450	312	5.5	1.1	2800
SF2.8	2.8	1.5-3.5	550	280	11	1.5	4240
SF4	4	2.0-4.0	650	235	15	1.5	5200
SF6	6	3.0-6.0	760	191	30	2.2	6000
SF8	8	4.0-8.0	760	191	30	1.5	8584
SF16	16	5.0-16	850	169-193	45	1.5	14830
SF20	20	5.0-20	730	186	30×2	1.5	19646

Any changes of technical parameters, there is no future notice.



## BF Flotation Cell

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Dia of Impeller (mm)	Revolution of Impeller (r/min)	Max. of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	Motor Power (kw)		(L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Cell (kg)
					For Agitating	For Scraper			
BF0.15	0.15	200	6	0.9-1.05	2.2/2	0.55	500×550×600	0.06-0.16	270
BF0.25	0.25	250	6	0.9-1.05	1.5	0.55	650×600×700	0.12-0.28	370
BF0.37	0.37	286	7.2	0.9-1.05	1.5	0.55	740×740×750	0.2-0.4	470
BF0.65	0.65	300	7.35	0.9-1.10	3.0	1.1	850×950×900	0.3-0.7	932
BF1.2	1.2	450	7.02	0.9-1.10	5.5/4	1.1	1050×1150×1100	0.6-1.2	1370
BF2	2	500	7.5	0.9-1.10	7.5	1.5	1400×1450×1120	1.0-2.0	1750
BF2.8	2.8	550	8.06	0.9-1.10	11	1.5	1650×1650×1150	1.4-3.0	2130
BF4	4	650	8	0.9-1.10	15	1.5	1900×2000×1200	2.4-4.0	2585
BF6	6	700	7.5	0.9-1.10	18.5	1.5	2200×2350×1300	3.0-6.0	3300
BF8	8	760	7.5	0.9-1.10	22	1.5	2250×2850×1400	4.0-8.0	4130
BF10	10		7.52	0.9-1.10	22	1.5	2250×2850×1700	5.0-10	4500
BF16	16	850	8.7	0.9-1.10	37	1.5	2850×3800×2000	8.0-16	8320
BF20	20		8.7	0.9-1.10	37	1.5	2850×3800×2000	10-20	8670
BF24	24	920	8.7	0.9-1.10	45	1.5	3150×4150×2000	12-24	8970

Any changes of technical parameters, there is no future notice.



## Ceramic Disc Filter



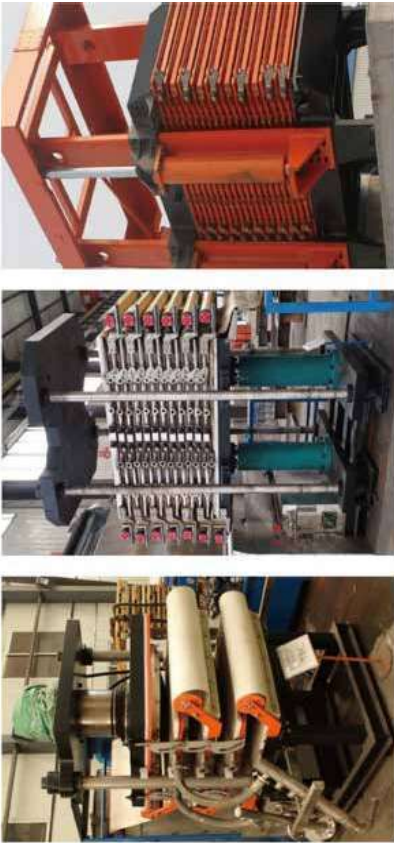
The ceramic filter is a kind of equipment which relies on vacuum negative pressure and capillarity of ceramic filtration plate to realize solid-liquid separation.

Extract air inside the ceramic plate to make the external pressure difference, slurry groove of suspended solid materials under the action of negative pressure adsorption on the ceramic plate, and because of the action of vacuum differential pressure of liquid and the hydrophilic of ceramic plate through the surface of ceramic plate into the ceramic plate inside the cavity, so that to reach the purpose of the solid-liquid separation.

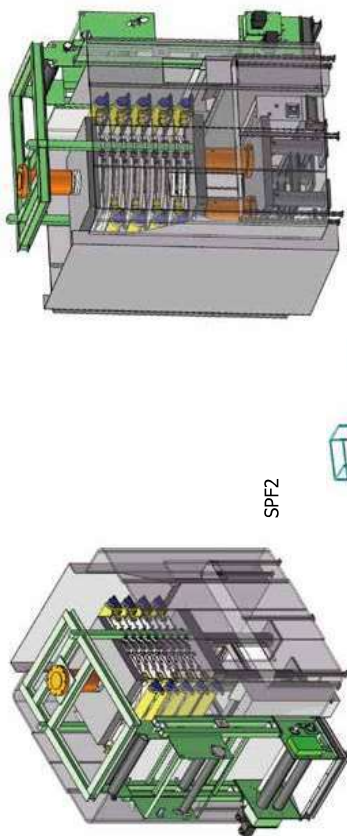
### Technical Specification

Model	Filter Area	Cycles Discs Number	Ceramic Plate Number	Installed Power	Operating Power	Overall Dimension
C1	1	1	12	3.5	2.0	1.6×1.4×1.5
C4	4	2	24	7.0	3.0	2.4×2.5×2.1
C6	6	2	24	7.0	6.0	2.4×2.5×2.1
C9	9	3	36	9.0	7.0	2.7×2.9×2.5
C12	12	4	48	11.0	7.5	3.0×2.9×2.5
C15	15	5	60	11.5	8.0	3.3×3.0×2.5
C21	21	7	84	13.5	9.0	4.6×3.0×2.6
C24	24	8	96	16.5	10.5	4.9×3.0×2.6
C27	27	9	108	17.0	11.0	5.2×3.0×2.6
C30	30	10	120	17.5	11.5	5.5×3.0×2.6
C36	36	12	144	23.0	16.0	6.6×3.0×2.6
C45	45	15	180	25.0	19.0	7.5×3.0×2.6
C60	60	15	180	33.0	22.0	7.5×3.3×3.0
C80	80	20	240	40.0	24.0	9.0×3.3×3.0
C102	102	17	204	53.0	35.0	8.8×3.6×3.3
C120	120	20	240	60.0	40.0	9.7×3.6×3.3

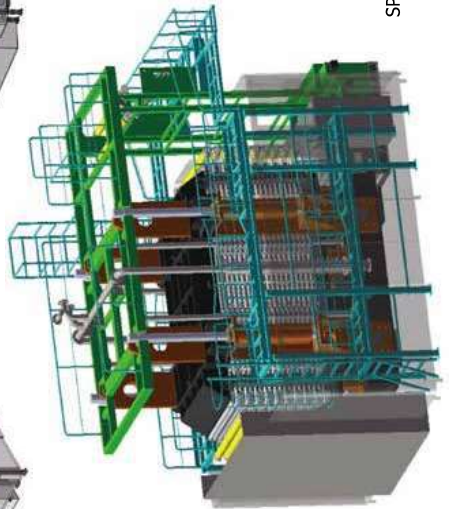
Any changes of technical parameters, there is no future notice.



SPF stacked press filter is a kind of high-efficiency, energy-saving and intelligent solid-liquid separation equipment. It makes full use of the slurry feeding pump pressure, slurry properties and rubber diaphragm extrusion pressure, and use filter cloth as filter medium to separate the solid and liquid from slurry.



SPF2



SPF3

SPF4

Technical Specification

Model	SPF1			SPF2													
	SPF1-1	SPF1-2	SPF1-3	SPF2-3	SPF2-6	SPF2-9	SPF2-12	SPF2-15	SPF2-18	SPF2-21	SPF2-24						
Filter Area (m <sup>2</sup> )	1	2	3	3	6	9	12	15	18	21	24	0.5m <sup>2</sup> /layer					
Plate Size (mm)	2.5			3.7													
Plate Qty (layer)	2	4	6	2	4	6	8	10	12	14	16						
Length (m)	1.5			4.1													
Height (m)	2.0	2.2	2.5	2.6	2.8	3.2	3.7	4.2	4.6	5.1	5.5						
Weight (t)	8	9	10	12	13	14	15	16	17	18	19						
Hydraulic Station Power (kw)	7.5			11													
Extrusion Pump Head (m)	167			136 1.3Mpa 164 Note: if extrusion pressure more than 1.3MPa, this data is 164													
Extrusion Pump Flowrate (m <sup>3</sup> /h)	8			28													
Extrusion Pump Power (kw)	7.5			11 1.3Mpa 时为 15 Note: if extrusion pressure more than 1.3MPa, this data is 15													
Auxiliary Equipment Data																	
Pipe Washing Pump Head (m)	70			68													
Pipe Washing Pump Flowrate (m <sup>3</sup> /h)	10			20													
Cloth Washing Pump Head (m)	70			70													
Cloth Washing Pump Flowrate (m <sup>3</sup> /h)	10			12													
Slurry Feeding Pump Flowrate (m <sup>3</sup> /h)	70			70													
Slurry Feeding Pump Flowrate (m <sup>3</sup> /h)	According to slurry data to choose																
Air Drying Pressure (Mpa)	0.8																
Air Compressor Flowrate For Air Drying (m <sup>3</sup> /min)	0.5	1	1.5	According to slurry data to choose													
Air Drying Tank Volume (m <sup>3</sup> )	1	2	3	3	4	5	6	7	8	8	10						
Air Pressure For Instruments (Mpa)	0.7																
Air Compressor Flowrate For Instruments (m <sup>3</sup> /min)	0.3			0.5													
Instruments Air Tank Volume (m <sup>3</sup> )	0.5			1													

Any changes of technical parameters, there is no future notice.

Technical Specification

Model	SPF3									
	SPF3-18	SPF3-24	SPF3-30	SPF3-36	SPF3-42	SPF3-48	SPF3-54	SPF3-60	SPF3-66	SPF3-66
Filter Area (m <sup>2</sup> )	3.0m <sup>2</sup> /layer									
Plate Size (mm)	5.1									
Plate Qty (layer)	5.5									
Length (m)	6	8	10	12	14	16	18	20	22	22
Width (m)	5.5									
Height (m)	4.3	4.5	4.9	5.4	5.8	6.3	6.8	7.2	7.7	7.7
Weight (t)	31	33	35	37	39	41	43	45	47	47
Hydraulic Station Power (kw)	22									
Extrusion Pump Head (m)	136 1.3Mpa 162 Note: if extrusion pressure more than 1.3MPa, this data is 162					135 1.3Mpa 166 Note: if extrusion pressure more than 1.3MPa, this data is 166				
Extrusion Pump Flowrate (m <sup>3</sup> /h)	40					55				
Extrusion Pump Power (kw)	15 1.3Mpa 18.5 Note: if extrusion pressure more than 1.3MPa, this data is 18.5					22 1.3Mpa 30 Note: if extrusion pressure more than 1.3MPa, this data is 30				
Auxiliary Equipment Data										
Pipe Washing Pump Head (m)	65									
Pipe Washing Pump Flowrate (m <sup>3</sup> /h)	26									
Cloth Washing Pump Head (m)	70									
Cloth Washing Pump Flowrate (m <sup>3</sup> /h)	16									
Slurry Feeding Pump Flowrate (m)	70									
Slurry Feeding Pump Flowrate (m <sup>3</sup> /h)	According to slurry data to choose									
Air Drying Pressure (Mpa)	0.8									
Air Compressor Flowrate For Air Drying (m <sup>3</sup> /min)	According to slurry data to choose									
Air Drying Tank Volume (m <sup>3</sup> )	8	10	10	12	12	15	15	20	20	20
Air Pressure For Instruments (Mpa)	0.7									
Air Compressor Flowrate For Instruments (m <sup>3</sup> /min)	0.5									
Instruments Air Tank Volume (m)	1									

Any changes of technical parameters, there is no future notice.

Technical Specification

Model	SPF4									
	SPF4-60	SPF4-72	SPF4-84	SPF4-96	SPF4-108	SPF4-120	SPF4-132	SPF4-144	SPF4-156	SPF4-168
Filter Area (m <sup>2</sup> )	6.0m <sup>2</sup> /layer									
Plate Size (mm)	7.1									
Plate Qty (layer)	5.5									
Length (m)	10	12	14	16	18	20	22	24	26	28
Width (m)	5.5									
Height (m)	5.4	5.8	6.2	6.6	6.9	7.2	7.6	7.9	8.3	8.6
Weight (t)	92	96	100	104	108	112	116	120	124	128
Hydraulic Station Power (kw)	30									
Extrusion Pump Head (m)	126 1.3Mpa 168 Note: if extrusion pressure more than 1.3MPa, this data is 168					128 1.3Mpa 162.5 Note: if extrusion pressure more than 1.3MPa, this data is 162.5				
Extrusion Pump Flowrate (m <sup>3</sup> /h)	110					150				
Extrusion Pump Power (kw)	37 1.3Mpa 45 Note: if extrusion pressure more than 1.3MPa, this data is 45					55 1.3Mpa 75 Note: if extrusion pressure more than 1.3MPa, this data is 75				
Auxiliary Equipment Data										
Pipe Washing Pump Head (m)	72									
Pipe Washing Pump Flowrate (m <sup>3</sup> /h)	36									
Cloth Washing Pump Head (m)	70									
Cloth Washing Pump Flowrate (m <sup>3</sup> /h)	20									
Slurry Feeding Pump Flowrate (m)	70									
Slurry Feeding Pump Flowrate (m <sup>3</sup> /h)	According to slurry data to choose									
Air Drying Pressure (Mpa)	0.8									
Air Compressor Flowrate For Air Drying (m <sup>3</sup> /min)	According to slurry data to choose									
Air Drying Tank Volume (m <sup>3</sup> )	20	20	25	30	35	35	40	40	45	45
Air Pressure For Instruments (Mpa)	0.7									
Air Compressor Flowrate For Instruments (m <sup>3</sup> /min)	1									
Instruments Air Tank Volume (m)	2									

Any changes of technical parameters, there is no future notice.



### DU Horizontal Vacuum Belt Filter

Remark: the equipment outline dimension is basic size, but not details size, so this size just for reference. Different material of plate, the filter will have different height and weight. Auxiliary equipment data just for reference, it will change by filter performance in different slurry.

The horizontal vacuum belt filter is using filtering fabric as the filter medium, which utilizes the material gravity and vacuum suction to realize the separation of the solid and liquid.

#### Technical Specification

No.	Material Name	Feed Solidity (g/l)	Extrusion Water Pressure (Mpa)	Cake Thickness (mm)	Cake Moisture (%)	Capacity (kg/m <sup>2</sup> .h)
1	4A-zeolite	150-295	1.4	35	19-22	190-200
2	Sulfuret	About 50	1.2	30	30	120
3	Lead	About 50	1.2	30	15-20	35
4	Copper Slag	600	1.6	40	8-9	310
5	Waste Water Sulphate	80	1.6	45	28-35	120-175
6	Calculation Gold Tailings	300	1.6	35	14-18	300-340
7	Superfine Aluminum Hydroxide	15-20%	1.6	20	29.5-32	65
8	Cu-Ni Concentration	66.7	1.6	30	9.78	257
9	Copper Concentration	45-50	1.6	35	7.6	360
10	Ni Concentration	45-50	1.6	30	8	300-400
11	Tantalum-Niobium Smelt		1.6		20-25	200
12	Coal Slime	30-35%	1.6	30	16-17	300
13	Slag Iron	40%	1.6	28	≤9	280
14	Gold Tailings After Flotation	20-30%	1.6	35	12-18	300
15	Mannitol		1.6		12	35
16	Zinc Oxide Powder	57%	1.6	18	20	90
17	Leaching Residue Of Zinc Oxide	50%	1.6	10	18-20	70
18	Sulphur Concentrate	10%	1.6	20	23-35	200

Model	Filtration Area (m <sup>2</sup> )	Effective Width (mm)	Effective Length (mm)	Frame Length (mm)	Frame Width (mm)	Frame Height (mm)	Weight (t)	Vacuum Consumption (m <sup>3</sup> /min)
DU2	2		4000	8100			5.5	8
DU3	3		6000	10100			6	12
DU4	4	500	8000	12100	1100	2070	6.5	16
DU5	5		10000	14100			7	18
DU6	6		12000	16100			7.6	22
DU8	8		8000	12100			8.8	25
DU10	10	1000	10000	14100	1600	2070	9.6	28
DU12	12		12000	16100			10.4	30
DU14	14		14000	18100			11.1	33
DU10.4	10.4		8000	12100			9.8	28
DU13	13		10000	14100			10.8	30
DU15.6	15.6	1300	12000	16100	1900	2170	11.5	35
DU18.2	18.2		14000	18100			13.2	38
DU20.8	20.8		16000	20100			15.1	42
DU20	20		10000	14100			14.2	40
DU24	24	2000	12000	16100	2700	2170	17.8	48
DU28	28		14000	18100			20.2	52
DU32	32		16000	20100			23.6	65
DU20A	20		8000	12100			14.8	40
DU25	25		10000	14100			18.6	50
DU30	30	2500	12000	16100	3200	2270	22.2	60
DU35	35		14000	18100			26	70
DU40	40		16000	20100			29.8	80
DU50	50		20000	24100			41	95
DU30A	30		10000	14100			22.8	60
DU36	36		12000	16100			27.5	72
DU42	42	3000	14000	18100	3750	2270	32.5	85
DU54	54		18000	22100			45	105
DU60	60		20000	24100			50.5	120
DU48	48		12000	16100			39.5	92
DU56	56		14000	18100			46.8	110
DU64	64	4000	16000	20100	4800	2470	52.6	120
DU72	72		18000	22100			58.3	145
DU80	80		20000	24100			63	160
DU144	144	4500	32500	41200	7100	5500	70	360

The machine can also be designed according to the scene and material situation.



## SSY Horizontal Belt Press Filter

### Technical Specification

Model	filtration Area (m <sup>2</sup> )	Chamber Volume (m <sup>3</sup> )	Feeding Pressure (Mpa)	Squeezing Pressure (Mpa)	Drive Power (Kw)	Total Weight (t)	Overall Dimension (m)
SSY1000	5	0.25	0.5-0.8	1.0	11	11.2	6×1.9×2.1
	10	0.5	0.5-0.8	1.0	15	21.5	11.5×1.9×2.1
	15	0.75	0.5-0.8	1.0	18.5	32	17×1.9×2.1
	20	1.0	0.5-0.8	1.0	18.5	42.3	22.5×1.9×2.1
SSY2000	10	0.5	0.5-0.8	1.0	15	16.8	6.5×2.9×2.2
	20	1.0	0.5-0.8	1.0	22	32.5	12×2.9×2.2
	30	1.5	0.5-0.8	1.0	25	48.5	17×2.9×2.2
	40	2.0	0.5-0.8	1.0	30	63.2	23×2.9×2.2

Any changes of technical parameters, there is no future notice.



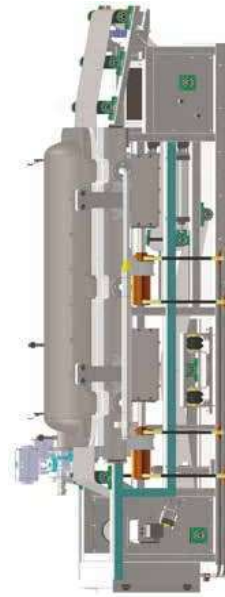
## HPF Intelligent Filter Press

### Technical Specification

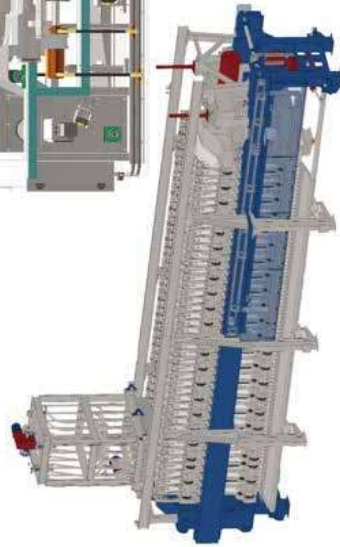
Model	filtration Area (m <sup>2</sup> )	Chamber Volume (m <sup>3</sup> )	Filter plate (piece)	Feeding Pressure (Mpa)	Squeezing Pressure (Mpa)	Drive Power (Kw)	Total Weight (t)
HPF80	80	1.52	25	0.6	1.6	33.5	39
HPF120	120	2.28	37			44	
HPF160	160	3.04	49	0.6	1.6	40.5	49.8
HPF200	200	3.8	61				55
HPF240	240	4.56	73				60

Any changes of technical parameters, there is no future notice.

HPF Intelligent Filter Press



SSY Horizontal Belt Press Filter



## NZS Center Drive High Efficiency Thickener



NZS Center drive high efficiency thickener adopts modular design, the whole machine consists of modules such as tank body, support, drive, receiving, discharging, rake, rake lifting part and so on. It has many optimizations in feeding, discharging, overflowing, controlling and other aspects. The new structure and control method are more conducive to accelerate material settlement, improve processing capacity of per unit area and reduce overflow turbidity.

### Technical Specification

Model	Thickener Tank		Setting Area (m <sup>2</sup> )	Revolution of Rake (r/min)	Motor Power (kw)	Capacity (t/d)	Weight of the Tank (kg)	Weight (kg)
	Dim. (m)	Depth (m)						
NZS1	1.8	1.8	2.55	0.5	1.1	1.3-5.6	602	1300
NZS2.5	2.5	1.8	4.9	0.33	1.1	5-10.8	1095	2355
NZS3.6	3.6	1.8	10.2	0.38	1.1	5-22.4	1905	3150
NZS6	6	2.96	28	0.35	1.5	14-60	6200	9000
NZS8	8	3	50.2	0.27	3	25-120	11065	15460
NZS9	9	3	63.5	0.25	3	35-150	12188	16682
NZS12	12	3.6	113	0.19	3	50-250	24060	33131
NZS15	15	3.6	177	0.1	5.5	70-350	35269	55499
NZS18	18	3.74	268	0.1	5.5	100-560		10139
NZS20	20	4.4	314	0.1	5.5	200-1440		24500
NZS24	24	4.4	452	0.1	7.5	200-1440		24500

Note: The size can be specially designed according to customer's requirements.

## NG Thickener With Peripheral Transmission

### Technical Specification

型号 Model	浓缩池 Thickener Tank		沉淀面积 Setting Area (m <sup>2</sup> )	电机功率 Motor Power (kw)	处理能力 Capacity (t/d)	重量 Weight (kg)
	直径 Dim. (m)	深度 Depth (m)				
NG15	15	3.5	177	5.5	390	9120
NG18	18	3.5	255	5.5	560	10000
NG24	24	3.7	452	7.5	1000	24000
NG30	30	3.6	707	7.5	1570	26420
NG45	45	5.06	1590	11	2400	50640
NG53	53	5.07	2202	11	3000	60910

## NT Thickener With Peripheral Rack Transmission

### Technical Specification

Model	Thickener Tank		Setting Area (m <sup>2</sup> )	Motor Power (kw)	Capacity (t/d)	Weight (kg)
	Dim. (m)	Depth (m)				
NT15	15	3.5	177	5.5	390	11000
NT 18	18	3.5	255	5.5	560	12120
NT 24	24	3.7	452	7.5	1000	28270
NT 30	30	3.6	707	7.5	1570	30888
NT 45	45	5.06	1590	11	2400	58640
NT 50	50	4.52	1964	11	3000	65920
NT 53	53	5.07	2202	11	3400	69410

## NZSG Updated High-efficiency Thickener

### Technical Specification

Model	Thickener Tank		Setting Area (m <sup>2</sup> )	Motor Power (kw)	Capacity (t/d)	Weight of the Tank (kg)	Weight (kg)
	Dim. (m)	Depth (m)					
NZSG2.5	2.5	1.8	4.9	1.1	5.22,4	1095	2355
NZSG 3	3	1.8	7	1.5	5.23,3	1633	3167
NZSG 3.6	3.6	1.8	10,2	1.5	5.25	2097	3680
NZSG 5	5	2,956	16	1.5	16.90	5160	8031
NZSG 6	6	2,956	28,3	1.5	98	5769	9200
NZSG 7	7	3	38,5	2.2	140	8548	13361
NZSG 8	8	3	50,2	3	185	12966	19289
NZSG 9	9	3	63	3	210	15439	21960
NZSG 12	12	3.6	113	3	370	25589	34823
NZSG 15	15	3.6	176	5.5	580	35800	58800
NZSG 18	18	3.74	255	7.5	960	51000	75600
NZSG 20	20	4.4	315	7.5	1400	62000	83550
NZSG 24	24	4.716	452	11	≥1400	80125	115840

Note:  
 1. The size can be specially designed according to customer's requirements.  
 2. The capacity will be increased up to 3-6 times if flocculant is added.

## High Efficient Hydrocyclone



Slurry flows along the line into hydro-cyclone under pressure. Under centrifugal force, large particles are thrown to the wall, move downward with external swirling flow and are discharged from the lower grit chamber to get coarse-grained grit products. Fine particles move upward with the internal swirling flow from the upper overflow pipe to get fine-grained overflow products.

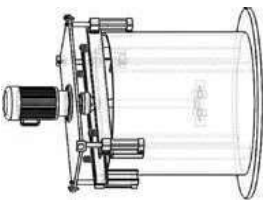
### Technical Specification

Model	Inner Diameter (mm)	Supply Feeding Pressure (Mpa)	Capacity (m <sup>3</sup> /h)	Separation solid size (μm)
NMT100	100	0.05-0.4	5-12	10-100 10-74
NMT125	125	0.05-0.4	8-15	20-100 20-74
NMT150	150	0.05-0.4	11-20	30-74 20-74
NMT200	200	0.05-0.4	25-40	40-100 30-100
NMT250	250	0.05-0.4	40-65	40-100 30-100
NMT300	300	0.05-0.4	45-80	50-150 40-100
NMT350	350	0.03-0.4	60-90	50-150 50-120
NMT500	500	0.03-0.4	140-220	74-200 74-150
NMT610	610	0.03-0.4	200-260	74-200
NMT660	660	0.03-0.4	250-360	74-220
NMT750	750	0.03-0.4	400-550	74-250

Any changes of technical parameters, there is no future notice.



## Agitation Tank



## METALLURGY EQUIPMENT



### Technical Specification

Type	Model	Effective Volume (m <sup>3</sup> )	Revolution of Impeller (r/min)	Dia. of Impeller (mm)	Motor Power (Kw)	Weight (kg)
High-density Agitation Tank	BJN-1000x1000	0.58	530	400	5.5	1800
	BJN-1500x1500	2.2	320	400	11	2500
	BJN-2000x2000	5.46	240	700	15	3100
	BJN-3000x3000	19.1	210	700	22	4660
	BJ-1000x1000	0.58	530	310	1.5	680
Normal Agitation Tank	BJ-1500x1500	2.2	320	400	3	1360
	BJ-2000x2000	5.46	230	550	5.5	1800
	BJ-2000x2500	5.97	280	630	7.5	
	BJ-2500x2500	11.2	230	630	7.5	2766
	BJ-3000x3000	19.1	210	700	18.5	4613
Chemical Agitation Tank	BJW-1000x1000	0.58	530	240	1.5	420
	BJW-1500x1500	2.2	320	400	3.0	1310
	BJW-2000x2000	5.46	230	550	5.5	1720
	BIZ-1000x1000	0.62	530	240	1.5	680
Cone-bottomed Agitation Tank	BIZ-1500x1500	2.38	320	400	3.0	1375
	BIZ-2000x2000	5.6	230	550	5.5	2000
	GBJ-1000x1000	0.58	530	240	2.2	
High Efficiency Agitation Tank	GBJ-1250x1250	1.4	350	240	3	
	GBJ-1500x1500	2.2	320	420	5.5	
	GBJ-2000x2000	5.46	340	560	7.5	3100
	GBJ-2500x2500	11.2	232	560	7.5	
Acid Washing Tank	BJS-1000x1000	0.86	513	240	1.1	
	BJS-1250x1250	1.3	492	310	2.2	
	BJS-1300x1600	1.55	320	400	3.0	
	BJS-1500x1500	1.83	320	400	3.0	



## Lifting Agitation Tank

### Technical Specification

Model	Crute Depth	Effective Volume (m <sup>3</sup> )	Revolution of Impeller (r/min)	Dia. of Impeller (mm)	Lifting Height	Motor Power (kw)	Weight (kg)
TBJ-1000	1266	0.9	460	300	980	5.5	
TBJ-1250	1510	1.4	460	300	1220	5.5	
TBJ-1500	1800	2.8	480	450	1470	7.5	1022

Any changes of technical parameters, there is no future notice.



### Cylinder Mixer



Cylinder mixer is one of the important equipment in sintering and pelletizing system, which can be used for raw material mixing, granulation, coal rolling and other purposes to meet the requirements of sintering machine for raw materials.

#### Technical Specification

圆锥混合机 Cylinder Mixer						
Model	Cylinder Diameter (mm)	Cylinder Length (mm)	Installation Angle	Filling Rate (r/min)	Revolution of Cylinder (r/min)	Capacity (t/h)
2500×10000	2500	10000	2.3°	15	7.0	110-160
3000×9000	3000	9000	2.8°	12.5-15.1	7.0	360-420
3000×12000	3000	12000	2.8°	12.5-15.1	7.0	480-580
3400×14000	3400	14000	1.5°	15	7.0	550-750
3600×13000	3600	13000	2°	14.28	6.5	600-800
3600×16000	3600	16000	2°	14.28	6.5	600-800
3800×15000	3800	15000	2°	12.7	5.9	700-800
4400×20000	4400	20000	1.5°	11.5	5	659-842
Cylinder Pelletizer						
2800×12000	2800	12000	2°	15	7.0	90-175
3200×13000	3200	13000	2.29°	15	7.0	500-700
3500×13000	3500	13000	0.9°	10.5	8.5	225-270

Any changes of technical parameters, there is no future notice.



### Pellet Annular Cooler

Pellet ring cooler is one of the main equipment in the process flow of grate-rotary kiln – ring cooler in the pellet engineering, which is used to cool pelletized ore discharged from the rotary kiln and recover the residual heat, finally the pelletized ore is suitable for transportation.

#### Technical Specification

Item	Data						
	HLQ-50	HLQ-69	HLQ-121	HLQ-150	HLQ-248		
Model	HLQ-50	HLQ-69	HLQ-121	HLQ-150	HLQ-248		
Effective Cooling Area (m <sup>2</sup> )	50	69	121	150	248		
Pallet Rotate Mean Diameter (m)	12.5	12.5	18.5	22	25		
Pallet Quantity (set)	28	28	45	45	40		
Pallet Width (m)	1.8	2.2	2.5	2.5	3.75		
Material Thickness (mm)	680	762	760	800	850		
Bellows (group)	9	9	15	16	21		
Double-layer Cinder valve (group)	9	9	15	16	21		
Capacity (t/h)	120	134-304	270-304	310-385	630-700		
Normal Cooling Time (min)	45	45	45	48	50		
	11	11	15	15	22		
Main Motor (Frequency Conversion)	2 sets	Power (Kw)	320-970	320-970	320-980		
		Rotate Speed (r/min)	380	380	380	380	
		Voltage (V)	2.2	2.2	2.2	2.2	
Spare Motor	2 sets	Power (Kw)	1430	1430	1430		
		Rotate Speed (r/min)	315	315	315	315	258.13
Main Reducer	2 sets	Speed Ratio i	1	1.5	1		
Primary Reducer	2 sets	Speed Ratio i	11	11	11		
Auxiliary Drive Reducer	2 sets	Speed Ratio i				13	

Any changes of technical parameters, there is no future notice.



Sintering Machine (belt-type sinterer/continuous strand sinter machine) is main equipment in the metallurgical sintering working, it is applicable for ferrous metal, non-ferrous metal sintering, the different content with different particle size of ore concentrate fine, richer powder, nickel, chrome, manganese ore and raw material will be sintered to briquette and removed inside harmful impurity of sulphur and phosphorus and others, it is the key equipment of smelting and will be using in blast furnace and electric furnace smelting after sintering.

The belt type sintering machine mainly has sintering pallet car, two ends gears, head and tail rear sealing, flexible transmission device, mixture hopper and auxiliary devices, and frame structure, tail moving mechanism, ignition device, air bellows, multi-roller material distributor, flue dust remover, grease lubricating system and others.



## Technical Specification

Model	KSH018	KSH050	KSH075	KSH090	KSH105
Effective Sintering Area (m <sup>2</sup> )	18	50	75	90	105
Pallet Car Size (W×L) (m)	1.5*1	2*1	2.5*1	2.5*1	2.5*1
Pallet Car Quantity (set)	40	70	85	97	124
Effective Sintered length (m)	12	25	30	36	42
Speed of Car (m/min)	0.7-2.1	1.6-4.8	1.4-4.2	2-6	1.006-3.018
Max. Material Thickness (mm)	250	300	300	300	580
Max. Capacity (t/h)	36	124	135	173	Max. 443.7
Chain Wheel Speed (r/min)	0.074-0.022	0.133-0.398	0.156-0.499	0.236-0.709	0.115-0.346
Main Motor	Power (Kw)	13	17	22	18.5
	Rotate Speed (r/min)	1000	1200-240	1250-250	320-960
Motor for Roller Feeder	Power (Kw)	3	3	5.5	7.5
Bellows Negative Pressure (Pa)	Rotate Speed (r/min)	1000	120-1200	250-1250	320-90
	Model of Lubricating Oil Station	900	1000-1100	1200	1200
	DGZ-500	DGZ-500	DGZ-500	DGZ-500	Special Use

Model	KSH130	KSH180	KSH220	KSH265	KSH360	KSH450
Effective Sintering Area (m <sup>2</sup> )	130	181.125	220.5	265.125	360	450
Pallet Car Size (W×L) (m)	2.5*1	3.5*1	3.5*1.5	3.5*1.5	4*1	5*1.5
Pallet Car Quantity (set)	129	97	112	129	150	136
Effective Sintered length (m)	52	51.75	63	75.75	90	90
Speed of Car (m/min)	2.4-7.2	1.5-4.5	2.06-6.18	2.06-6.18	1.5-4.5	1.9-5.3
Max. Material Thickness (mm)	300□350	500	460	500	630	600
Max. Capacity (t/h)	234	Max.800	Max.1000	Max.1000	950	625
Chain Wheel Speed (r/min)	0.275-0.823	0.117-0.351	0.154-0.462	0.154-0.462	0.116-0.350	0.147-0.441
Main Motor	Power (kw)	30	30	30	45	45
	Rotate Speed (r/min)	680	680	680	680	320-960
Motor for Roller Feeder	Power (kw)	7.5	10	10	10	15
Bellows Negative Pressure (Pa)	Rotate Speed (r/min)	1000	500-1500	500-1500	500-1500	490-1470
	Model of Lubricating Oil Station		1300	1300	1300	15000
		DXZ-630	DXZ-630	DXZ-630	Special Use	

Any changes of technical parameters, there is no future notice.

## Chain Grate



In the constructions of pellet plant, production process line of chain grate-rotary kiln pellet has been commonly adopted, which has advanced technology, good quality, high yield and great benefits. The production line of chain grate-rotary kiln oxide pellet consist of multiple equipments, e.g. chain grate, rotary kiln, ring cooling machine, damp mill, dryer, pelletizing machine, material spreader and other auxiliary equipments. The characteristic of the pellet technology is that drying and preheating, baking and cooling processes are carried out respectively on three main equipments. First green ball is dried, dewatered and preheated on chain grate, and gets into rotary kiln for baking, then cooling is finished through ring cooling machine. Finally it is transported to finished-parts storage through high temperature resistant plate conveyor or high temperature resistant belt machine. Technical Specification

Model	Effective Width	Annual Output (Ten Thousand T/Year)	(m) Overall Dimension
2.0×30	2.0	30	38.2×10.6×8.66
2.2×32.5	2.2	40	40.7×10.81×8.66
2.5×33	2.5	50	41.5×11.31×9.86
2.8×36	2.8	60	44.2×11.97×9.86
3.1×36	3.1	75	44.2×12.24×9.45
3.5×39	3.5	100	47.7×8.9×12.7
4.0×42	4.0	120	50.7×9.5×12.2
4.5×60	4.5	200	68.3×10×12.2

Any changes of technical parameters, there is no future notice.



## Disc Pelletizer



The Disc pelletizer is the equipment for pelletizing in pellet production process. When the disc rotates around the central axis, the pellet materials rolls down along the bottom of the disc, and the fine materials are scattered on the wet surface of the raw

pellet, so that the raw pellet grows up to the specified size continuously. Its working characteristics are as following: the materials perform regular movement, so that the larger and the smaller pellet are to travel in different tracks respectively, therefore the size of qualified raw pellet can be discharged according to the size classification. According to the different structure of the equipment, it can be divided into two kinds of disc pelletizer structures: external gear meshing type and rotary bearing type.

### Technical Specification

Model	KZP2200	KZP2800	KZP3200	KZP4500	KZP5500	KZP6000	KZP7500
Diameter (mm)	2200	2800	3200	4500	5500	6000	7500
Height (m)	500	640	640	640	600	600	700
Slope	15°—55°	30°—55°	30°—55°	35°—55°	40°—50°	43°—53°	45°—50°
Revolutions (r/min)	14.19	11.22	9.09	7.5	6.7,8	6.23,6.85,7.02	6.0
Output (t/h)	8	16	15-20	33-45	30-36	50-56	70-80
Spraying Pipe Qty		3		4	4	5	6
Power (Kw)	13	22		55	75	90	110
Revolutions (r/min)		1460		1480		1490	1490
Voltage (V)	380						
Length (m)	2.807	3.48	3.68	5.3	6.63	7.13	8.630
Width (m)	2.755	3.4	3.57	5.6	6	6	6.6
Height (m)	2.5875	3.053	3.053	4.7	6.5	6.5	
重量 Weight (t)	3.55	6.03	6.364	17.5	37.515	45.5	
Remark	Motor weight is excluded from the total weight						

Any changes of technical parameters, there is no future notice.

## TRANSMISSION EQUIPMENT



## Belt Conveyor



Belt conveyor finds application in metallurgy, mines, coal, power station, building materials to handle bulk materials. Depending upon the structure, these are available with different versions that Trough Belt conveyor, Flat Belt Conveyor, Turning Belt Conveyor, Elevating Belt Conveyor, Straight Belt Conveyor, Particular Belt Conveyor (45 Degrees Belt Conveyor, Fan-shaped Belt Conveyor, Light Belt Conveyor, Narrow type belt conveyor, Flexible Belt Conveyor, Handling Belt Conveyor, Steel Band Belt Conveyor).

### Technical Specification

Roller Type	(m/s)	Belt Width (mm)			
		500	650	800	1000
Trough Roller	0.8	78	131		
	1.0	97	164	278	435
	1.25	122	206	348	544
	1.6	156	264	445	696
	2.0	191	323	546	853
	2.5	232	391	661	1033
	3.15			824	1233
	4				
	0.8	41	67	118	
	1.0	52	88	147	230
1.25	66	110	184	288	
1.6	84	142	236	368	
2.0	103	174	289	451	
2.5	125	211	350	546	
Parallel Roller					

A h f t h i l t t h i f t t i



## Apron Feeder



Heavy duty apron feeder, with a strong conveying ability to transfer different bulk weight or different articles can be conveying to various material receiver, widely used as material handling process from the storage silo to the crusher, conveyors or others whatever in continuous and smooth as required, also available for short-distance transportation of materials with larger or denser lump. Apron Feeders find application for mines & minerals, metallurgy, building materials, chemicals, coal fields, and other industries.

Depending on the application, the heavy duty apron feeders are available with 2 different assembly type that are horizontal or declined mounting, which is up to a maximum upward inclination 25°. Frequency motor and hydraulic motor are employed for speed regulation, and with the control interlocks to the material receiver, ensure the receiving material is to reach its maximum efficiency.

### Technical Specification

Model	Width of Conveying Trough (mm)	Capacity (m <sup>3</sup> /h)	Speed (m/s)	Max. dip angle	Particle size (mm)
Light-duty	BQ500	41	0.02-0.24	15°	≤160
	BQ650	68			
	BQ800	107			
Medium-duty	HB800	24-290	0.02-0.24	15°	≤400
	HB1000	24-290			
	HB1250	24-290			
Heavy-duty	BZ1200	60-120	0.03-0.06	10°	≤500
	BZ1500	90-180			
	BZ1800	140-280			
	BZ2000	170-340			
	BZ2400	240-280			

Any changes of technical parameters, there is no future notice.



## M AH HH Model Slurry Pump



M, AH, HH Model pumps are cantilever and horizontal centrifugal slurry pumps. They are designed for the handling highly abrasive, high concentration slurries. They are widely used in metallurgy industry, mining industry and so on. The pumps of this model also can be installed as multi-stage series pumps.

Pump body of M, AH model pumps has wearable metal liner or rubber liner pumps. The impellers are made of wearable metal or rubber. Both the liner and impeller for HH model pumps are made of wearable metal only.

The shaft seal system of M, AH and HH model pumps adopts packing seal, centrifugal seal (or mechanical seal). The exit of pump can be divided into eight parts, each of which is 45 degrees. So it can fulfill the different requirements that handling slurry to different directions.

### Technical Specification

(Only part of the specifications are showed in this table)

Model	Allowable Mating Max. Power (kw)	Material		Clear Water Performance					Impeller		
		Liner	Impel	Capacity (M <sup>3</sup> /h)	Capacity (L/S)	Head H(m)	Speed N(r/min)	Max. Eff (N%)	NPSH (M)	No. Of Vanes	Impel Dia(mm)
25B-AH	15	M	M	12.6-28.8	3.5-8	6-68	1200-3800	40	2-4	5	152
25B-AH	15	RU	RU	10.8-25.2	3-7	7-52	1400-3400	35	2-4	3	152
40B-AH	15	M	M	32.4-72	9-20	6-58	1200-3200	45	3.5-8	5	184
40B-AH	15	RU	RU	25.2-54	7-15	5.5-41	1000-2600	50	2.5-5	5	178
50C-AH	30	M	M	39.6-86.4	11-24	12-64	1300-2700	55	4-6	5	214
50C-AH	30	RU	RU	36-75.6	10-21	13-39	1300-2100	55	2-4	5	213
50D+HH	60	M	M	68.4-136.8	19-38	25-87	850-1400	47	3-7.5	5	457
75C-AH	30	M	M	86.4-198	24-55	9-52	1000-2200	71	4-6	5	245
75C-AH	30	RU	RU	79.2-180	22-5	5-34.5	800-1800	59	3-5	5	245
75E+HH	120	M	M	126-252	35-70	12-97	600-1400	50	2-5	5	508
100D-AH	60	M	M	162-360	45-100	12-56	800-1550	65	5-8	5	365
100D-AH	60	RU	RU	144-324	40-90	12-45	800-1350	65	3-5	5	365
150T+HH	1200	M	M	576-1152	160-320	32-95	450-725	65	6-10	5	965
200E-M	120	M	M	540-1228	150-340	15-61	600-1100	70	4.5-8	4	549
200E-M	120	RU	RU	540-1188	150-330	10-42	500-900	79	5-9	5	549
200ST-AH	560	M	M	612-1368	170-380	11-61	400-850	71	4-10	5	686
200ST-AH	560	RU	RU	540-1188	150-330	12-50	400-750	75	4-12	5	686
250ST-AH	560	M	M	936-1980	260-550	7-68	300-800	82	6	5	762
250ST-AH	560	RU	RU	720-1620	200-450	7-45	300-650	80	2.5-7.5	5	762
300ST-AH	560	M	M	1260-2772	350-770	13-63	300-600	77	3-10	5	956
300ST-AH	560	RU	RU	1152-2520	320-700	13-44	300-500	79	3-8	5	956
350TU-AH	1200	M	M	1368-3060	380-850	11-63	250-550	79	4-10	5	1067
400ST-AH	560	M	M	2160-5040	600-1400	8-66	200-500	80	4.5-9	5	1245
450TU-AH	1200	M	M	2520-5400	700-1500	13-57	200-400	85	5-10	5	1370

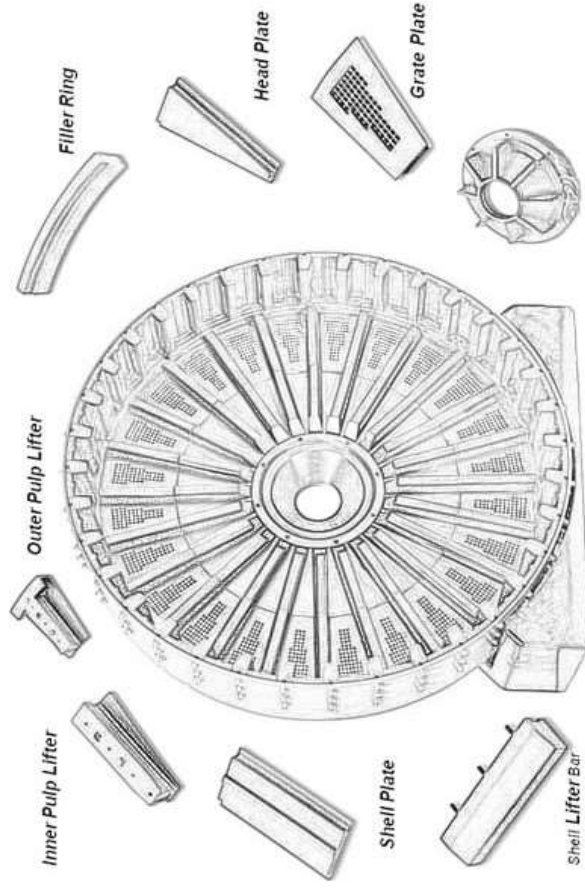
Any changes of technical parameters, there is no future notice.



## ZJ Series Single, Single Suction, Centrifugal Model Slurry Pump



## MINING EQUIPMENT PARTS



ZJ Series Single, Single Suction, Centrifugal Model Slurry Pumps are energy saving, high efficiency pump. There are upright structure pumps and horizontal structure pumps. The diameter of horizontal pump exit is from 40mm to 300mm, and for the upright model, it is from 50mm to 150mm. This series are designed with reasonable hydraulic design. Flow parts are made of hard alloy cast iron or rubber. According to the different requirements on the pumps, the shaft seal types can be mechanical seal, packing seal, impeller or compound seal. This series of pumps have many features, such as: high efficiency, reasonable structure, not heavy, long service life, reliable performance, low noise and etc. They are widely used in the field of metallurgical industry, mining industry, construction industry etc. They can be used to handle corrosive slurry or corrosive slurry, mortar, ore magma. The weight concentration can reach separately to 45% and 60%. According to different technology processes, this series of pumps can be designed as series multistage, parallel multi-stage model or compound application run mode.

### Technical Specification

(Only part of the specifications are showed in this table.)

Model	Allowable Working Power (kw)	Clear Water Performance					(mm) Particle Max. Size Handle Occasionally	(Kg) Weight
		Capacity (M <sup>3</sup> /h)	Head H(m)	Speed N(r/min)	Max. Eff (η%)	NPSH (M)		
300ZJ-100A	450	464-1823	15.3-65.2	300-590	80.7	3	88	5750
300ZJ-90A	560	505-1844	21.2-79.9	400-730	81.4	3.9	85	5000
300ZJ-70A	630	635-2333	16-76.8	490-980	80.4	3.9	92	4150
300ZJ-56A	250	395-1568	9.7-46	490-980	80.9	3.5	96	2950
250ZJ-103A	560	402-1573	29.7-110.5	400-730	74.5	2.8	69	5650
250ZJ-80A	710	354-1416	26.7-114	490-980	72.6	3.4	76	4630
250ZJ-60A	280	276-1153	13.1-60.5	490-980	73.9	2.8	72	3530
200ZJ-85A	560	221-907	32-133.7	490-980	70.5	2.8	54	4150
200ZJ-70A	315	205-976	19.4-86.4	490-980	75.6	2.8	56	3160
200ZJ-58A	185	211-841	13-57.9	490-980	81.7	2.5	62	2380
150ZJ-70A	185	93-401	20-91.2	490-980	62.3	2	37	2985
150ZJ-60A	160	135-550	14.7-63.5	490-980	74.6	2.5	48	1800
150ZJ-42C	132	142-550	12.1-62.8	700-1480	76.4	2.2	69	1550
100ZJ-50A	160	85-360	20.5-100.2	700-1480	68.5	2.5	34	1440
100ZJG-42B	75	45-205	12.6-70.7	700-1480	63.2	1.8	18	1070
100ZJ-33A	45	56-225	8.2-41.6	700-1480	69.6	1.8	32	870
80ZJ-52A	160	51-242	22.1-109.8	700-1480	56.3	2.1	21	1080
80ZJ-33A	37	73-174	8-43.2	700-1480	65.7	2.3	24	960
65ZJ-30A	15	23-79	7.4-34.8	700-1460	63.5	2	19	820
65ZJ-27A	11	20-71	6-28.2	700-1460	61.5	1.8	19	795
50ZJ-50A	90	27-111	22.3-110.7	700-1480	45.1	3	13	1078
50ZJ-46A	55	23-94	17.9-85.8	700-1480	44.7	1.4	13	690
50ZJ-33A	18.5	12-54	7.7-42.5	700-1480	41.4	2.9	13	680
40ZJ-17A	4	4-23	9-44.6	1400-2900	52.4	2.5	11	230

Any changes of technical parameters, there is no future notice.



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Bowl Liner



Mantle



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Mantle



Mantle



Touch Ring

**Cone Crusher Parts**



Jaw Plate



Jaw Plate



Jaw Plate



Jaw Plate



Side Plate



Side Plate



Side Plate



Fastening Bracket



Fly Wheel



Fly Wheel



Side Plate



Side Plate



Cheek Plate Upper



Side Plate



Side Plate



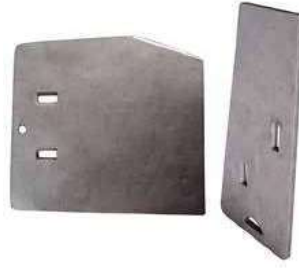
Cheek Plate Lower



Side Fender



Side Fender



Side Fender



Copper Sleeve



Copper Sleeve

### Jaw Crusher Parts



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head



Hammer Head

### Hammer Crusher Parts



Blow Bar



Blow Bar



Blow Bar



Blow Bar



### Impact Crusher Parts



Blow Bar



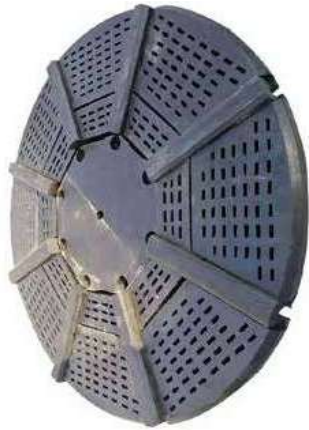
Blow Bar



Blow Bar



Blow Bar



Rubber Liner Assembly



Rubber Liner

**Mill Parts - Rubber Parts**



Rubber Trommel Screen



Rubber Liner



Rubber Liner



Wear-resistant Magnetic Rubber Liner



Liner



Liner



Liner



Liner



Liner



Liner



Liner

**Mill Parts - Metal Parts**



Segment



Liner



筒体 Cylinder



Quill Shaft



Bearing Block



Discharging Barrel



Mill Thrust Roller



Large Flywheel



Mill End Shield



Large Ring Gear



Liner



Mill End Shield

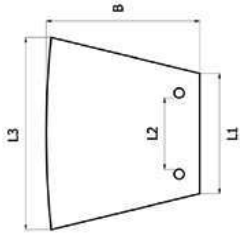


Sheath



Sheath



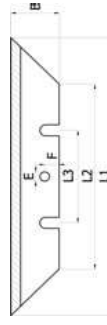


Ceramic Filter Plate



Model	Specification	Exterior Dimension (mm)
RT-P1	1m <sup>2</sup> /12	L1=128 L2=98 L3=250 B=250 C=20
RT-P2	2m <sup>2</sup> /12	L1=225 L2=165 L3=380 B=320 C=25
RT-P3	3m <sup>2</sup> /12	L1=295 L2=239 L3=485 B=395 C=25-30
RT-P4	4m <sup>2</sup> /12	L1=338 L2=276 L3=555 B=441 C=30
RT-P5	5m <sup>2</sup> /12	L1=300 L2=240 L3=568 B=550 C=35
RT-P6	6m <sup>2</sup> /12	L1=294 L2=235 L3=603 B=619 C=32
RT-P12	12m <sup>2</sup> /12	L2=430 L3=777.3 B=822 C=36

## Flotation Machine Parts Rubber Parts

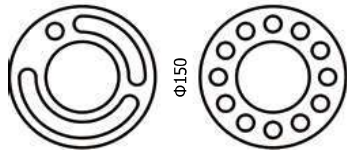


Ceramic Scraper for Discharging

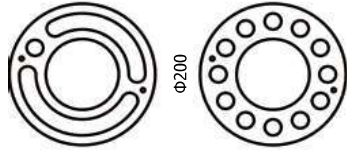
Model	Specification	Exterior Dimension (mm)
RT-S255	255	L1=255 L2=244 L3=215 B=72 C=11 D=140 E=12.0 F=24
RT-S325	325	L1=325 L2=310 L3=287 B=72 C=12 D=120 E=12.5 F=19
RT-S345	345	L1=345 L2=331 L3=288 B=72 C=11 D=130 E=13.0 F=20
RT-S375	375	L1=375 L2=360 L3=330 B=72 C=12 D=130 E=12.5 F=20
RT-S634	634	L1=643 L2=634 L3=634 B=101 C=12 D=136 E=15 F=18



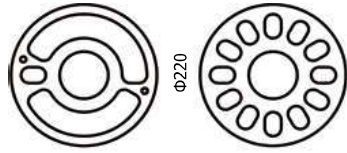
Ceramic Friction Ring



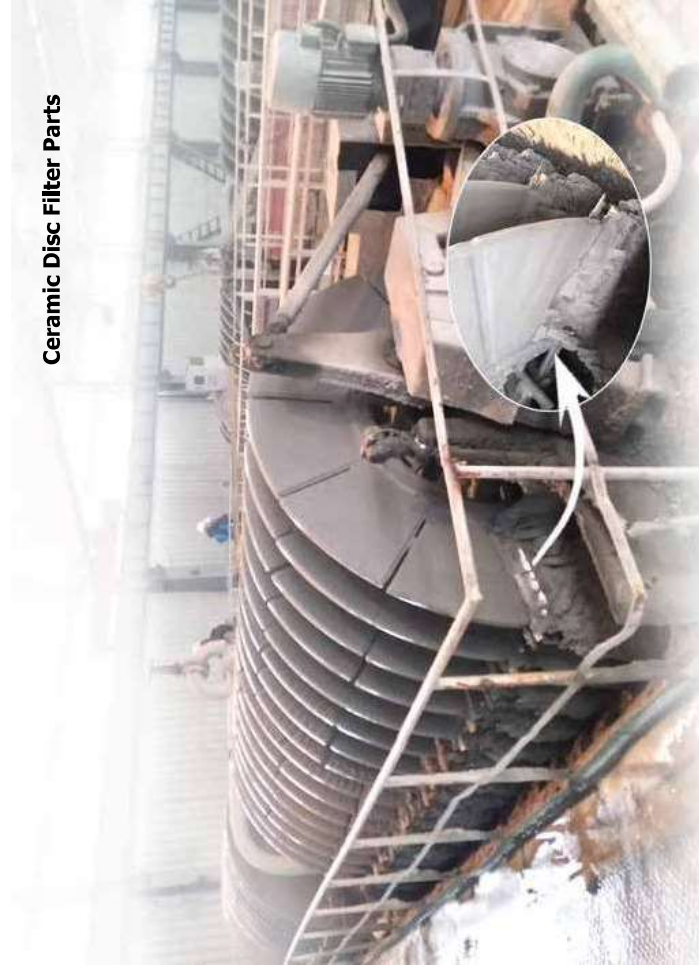
φ150



φ200



φ220



Ceramic Disc Filter Parts



Filter Plate



Filter Plate



Filter Plate



Rubber Diaphragm Filter Plate



Filter Plate

**Filter Parts**



Filter Cloth  
Polypropylene Fiber, Polyester Fiber, Cotton Fiber, Polyamide Fibre, Polyvinyl Alcohol Fiber



Rubber Diaphragm

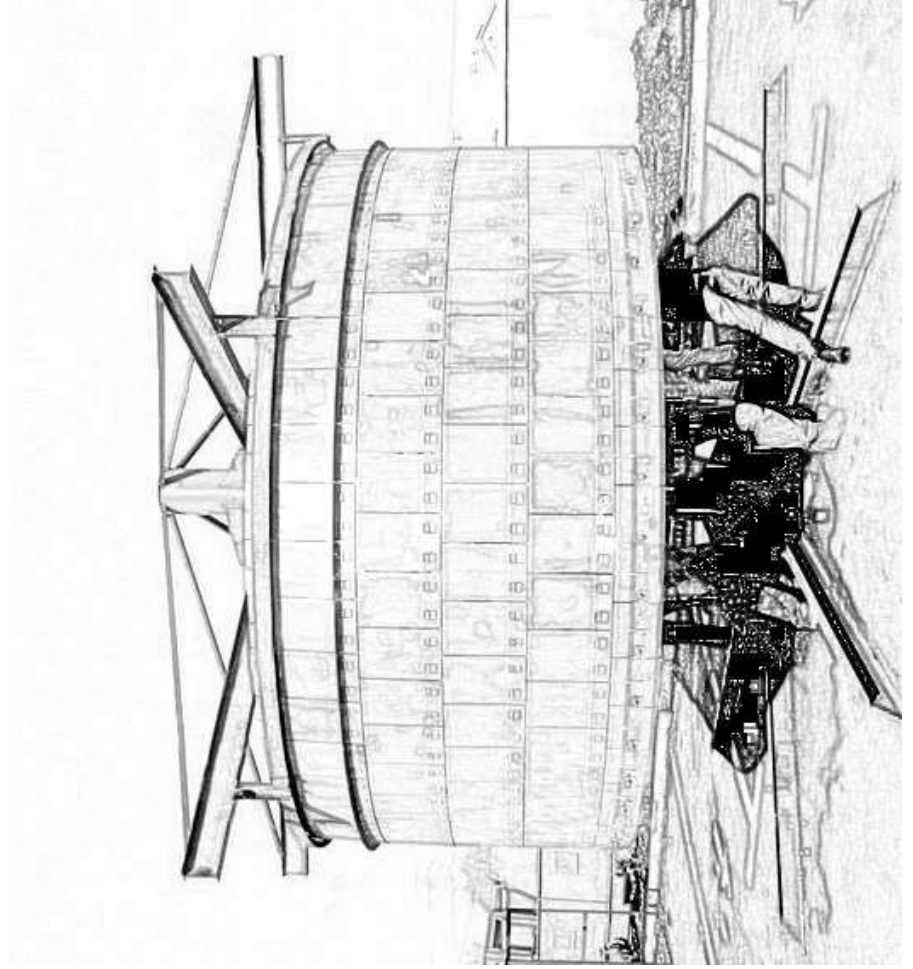


Rubber Conveyor Belt



Polyurethane/Rubber Roller

**METALLURGY EQUIPMENT PARTS**



Cylinder Body



Liner

**Cylinder Mixer Parts**



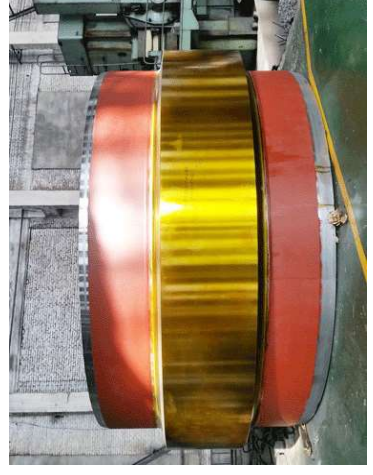
Support Roller



Big Gear Ring



Cylinder Mixer Parts



Cylinder Mixer Parts

## Pellet Annular Cooler Parts



Supporting Roller



Pallet



Driving Device Part



Supporting Wheel



Triangle Beam



Head Sprocket Assembly



Pallet



Chain Link



Grate Plate

## Sintering Machine Parts



Pallet Car Assembly



Pallet Body



Pallet Car Assembly



Pallet Body



Pallet Car



Pallet Car Assembly



Head Sprocket Assembly



Head Sprocket & Tail Sprocket



Tail Sprocket

**Sintering Machine Parts**



Burner



Toothed Plate



Sealing Device



Runner



Pallet Wheel



Grate Bar



Pallet Insulation Mat



Pallet Shaft



Pallet Wheel Assembling

**Chain Grate Parts**



Grate Plate



Grate Link



Grate Plate



Grate Link



Grate Plate



Grate Link



Stripper



Side Plate



Disc Pelletizer Parts

Big Gear of Disc Pelletizer



Single Roller Crusher Parts

Rotor Section



Rotor Section Assembly



Star Wheel



Grate Plate



Chain Grate Assembly



Chain Grate Assembly



Chain Grate Assembly



Chain Grate Assembly



Chain Grate Assembly



Chain Grate Assembly

# ROCK DRILLING EQUIPMENTS

# ROCK DRILLING TOOLS PRODUCT CATALOGUE



## Button Bit Insert Types



### Hemispherical Button

- Application Strength - universal button
- Best suited to hard ground
- 25,000 to 45,000 PSI (170 to 300 MPa)
- Abrasive to very abrasive



### Parabolic Button (semi ballistic)

- Application strength - fast penetration
- Best suited to medium ground
- 15,000 to 25,000 PSI (100 to 170 MPa)
- Mildly abrasive ground



### Ballistic Button

- Application Strength - fast penetration
- Best suited to soft ground
- 10,000 to 20,000 PSI (70 to 140 MPa)
- Non abrasive ground



### Conical Button

- Application Strength - fast penetration
- Suited for all non-abrasive ground types
- Smaller contact area
- Best suited for smaller diameter bits

## Bit Selection Guide



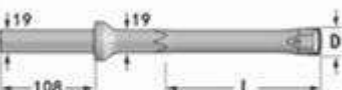
ROCK TYPE	DUCTILITY	BREAK ABILITY	WEAR ABILITY	CONTROL ABILITY	THREADED BIT INSERT	THREADED BIT STYLE	TAPER BIT STYLE
Talc	High	Low	Low	High	Blade	2-prong 3-prong	2-prong 3-prong
Shale	High	Low	Medium	Medium	Ballistic Parabolic	Flat face Drop center	Button bit Blade - Multi
Limestone	Medium	High	Low	High	Ballistic Parabolic	Flat face Drop center	Button bit Blade - Multi
Sandstone	Medium	High	High	Medium	Parabolic	Flat face Drop center	Button bit Blade - Multi
Marble	Low	Medium	Low	High	Hemi	Flat face	Blade - Multi
Gneiss	Low	Medium	High	High	Hemi	Flat face	Blade
Feldspar	Low	Medium	Low	High	Hemi	Flat face	Blade
Granite	Low	Low	Medium	High	Hemi	Flat face	Blade
Diorite	Low	Low	Low	High	Hemi Tent	Flat face X-Cross	Blade
Quartzite	Low	Low	High	High	Hemi Tent	Flat face X-Cross	Blade



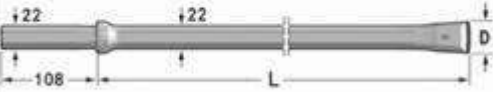
## Small hole drilling

	Page
H19 Integral drill steels	4
H22 Integral drill steels	5
Tapered tools 7°	6
Tapered tools 11°	9
Tapered tools 12°	11

## Integral drill steels

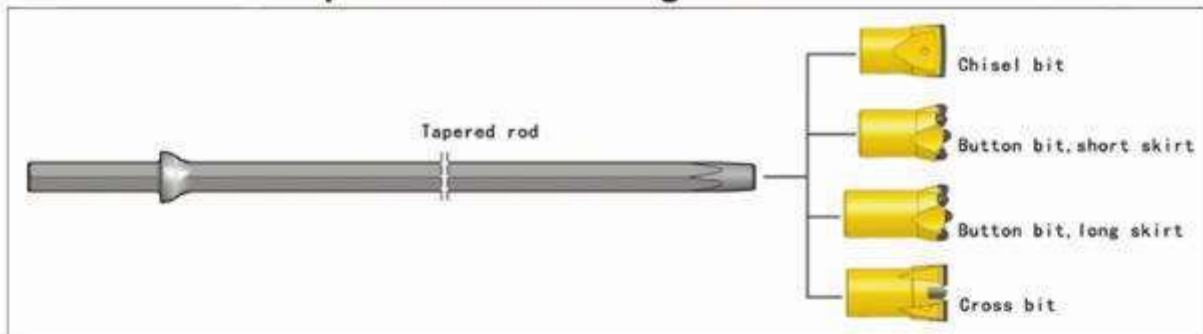
19mm	Length		Bit dia.	Weight approx kg	Product NO.	
	mm	foot				
<p>Chisel bit integral</p> <p>19mm X 108mm</p> <p>Shank 19mm X 108mm</p> 	400	1' 4"	29	1.3	SH19-291508-0400-40-2	
	500	1' 8"	29	1.5	SH19-291508-0500-40-2	
	800	2' 7"	28	2.2	SH19-281508-0800-40-2	
	1000	3' 33/8"	28	2.6	SH19-281508-1000-40-2	
	1200	3' 11"	27	3.0	SH19-271508-1200-40-2	
	1600	5' 3"	27	3.9	SH19-271508-1600-40-2	
	2400	7' 10"	26	5.7	SH19-261508-2400-40-2	
	3200	10' 6"	25	7.5	SH19-251508-3200-40-2	
	4000	13' 1"	24	9.2	SH19-251508-4000-40-2	
	400	1' 4"	24	1.3	SH19-241508-0400-40-2	
	800	2' 7"	23	2.2	SH19-231508-0800-40-2	
	600	2'	27	1.7	SH19-271508-0600-40-2	
	1200	3' 11"	26	3.0	SH19-261508-1200-40-2	
	2000	6' 7"	24	4.8	SH19-241508-2000-40-2	
	2400	7' 10"	24	5.7	SH19-241508-2400-40-2	
	2700	8' 10"	24	6.3	SH19-241508-2700-40-2	
	400	1' 4"	35	1.3	SH19-351810-0400-40-2	
	800	2' 7"	34	2.2	SH19-341810-0800-40-2	
	<p>Chisel bit integral</p> <p>22mm X 108mm</p> <p>Shank 22mm X 108mm</p> 	400	1' 4"	24	1.5	SH19-241508-0400-40-2
		400	1' 4"	29	1.5	SH19-291508-0400-40-2
600		2'	27	1.7	SH19-271508-0600-40-2	
800		2' 7"	23	2.3	SH19-231508-0800-40-2	
800		2' 7"	28	2.3	SH19-281508-0800-40-2	
1200		3' 11"	23	3.2	SH19-231508-1200-40-2	
1600		5' 3"	27	4.0	SH19-271508-1600-40-2	
2000		6' 7"	28	5.0	SH19-281508-2000-40-2	
2400		7' 10"	26	5.8	SH19-261508-2400-40-2	
3200		10' 6"	25	7.5	SH19-251508-3200-40-2	
<p>Plug hole integral steels</p> <p>19mm X 108mm</p> <p>Shank 19mm X 108mm</p> 		Length (mm)	Bit dia.	Turned length	Weight approx kg	Product NO.
		210	17	150	0.7	SH19-171308-0210-40-2
		210	20	150	0.7	SH19-201308-0210-40-2
		210	22	150	0.7	SH19-221308-0210-40-2
		260	20	200	0.8	SH19-201308-0260-40-2
		260	22	200	0.8	SH19-221308-0260-40-2
		310	22	250	0.9	SH19-221308-0310-40-2
		340	20	280	1.0	SH19-201308-0340-40-2
		210	20	150	0.7	SH19-201308-0210-40-2
		210	22	150	0.7	SH19-221308-0210-40-2
<p>19mm X 82mm</p> <p>Shank 19mm X 82mm</p>	210	20	150	0.7	SH19-201308-0210-40-2	
	210	22	150	0.7	SH19-221308-0210-40-2	

## Integral drill steels

22mm	Length		Bit dia.	Weight approx kg	Product NO.
	mm	Foot			
<p>Chisel bit integral</p> <p>22mm X 108mm</p> <p>Shank: 22mm X 108mm</p> 	800	2' 7"	34	3.0	5H22-341810-0800-40-2
	1600	5' 3"	33	5.2	5H22-331810-1600-40-2
	2400	7' 10"	32	8.0	5H22-321808-2400-40-2
	3200	10' 6"	31	10.2	5H22-311808-3200-40-2
	4000	13' 1"	30	12.9	5H22-301808-4000-40-2
	4800	15' 9"	29	15.1	5H22-291508-4800-40-2
	5600	18' 4"	28	17.6	5H22-281508-5600-40-2
	6400	21'	27	20.1	5H22-271508-6400-40-2
	7200	23' 6"	26	22.5	5H22-261508-7200-40-2
	800	2' 7"	40	3.0	5H22-401810-0800-40-2
	1600	5' 3"	39	5.2	5H22-391810-1600-40-2
	2400	7' 10"	38	8.0	5H22-381810-2400-40-2
	3200	10' 6"	37	10.2	5H22-371810-3200-40-2
	4000	13' 1"	36	12.9	5H22-361810-4000-40-2
	4800	15' 9"	35	15.1	5H22-351810-4800-40-2
	5600	18' 4"	34	17.6	5H22-341810-5600-40-2
	6400	21'	33	20.1	5H22-331810-6400-40-2
	7200	23' 6"	32	22.5	5H22-321808-7200-40-2
	8000	26' 2"	31	25.0	5H22-311808-8000-40-2
	400	1' 4"	34	1.7	5H22-341810-0400-40-2
800	2' 7"	33	3.0	5H22-331810-0800-40-2	
1200	3' 11"	32	4.1	5H22-321808-1200-40-2	
1600	5' 3"	31	5.2	5H22-311808-1600-40-2	
2000	6' 7"	30	6.7	5H22-301808-2000-40-2	
600	2'	41	2.4	5H22-411810-0600-40-2	
1200	3' 11"	40	4.3	5H22-401810-1200-40-2	
1800	5' 11"	39	6.2	5H22-391810-1800-40-2	
2400	7' 10"	38	8.0	5H22-381810-2400-40-2	
400	1' 4"	41	1.7	5H22-411810-0400-40-2	
800	2' 7"	29	3.0	5H22-291508-0800-40-2	
800	2' 7"	38	3.1	5H22-381810-0800-40-2	
1200	3' 11"	39	4.3	5H22-391810-1200-40-2	
1600	5' 3"	36	5.2	5H22-361810-1600-40-2	
1800	5' 11"	36	6.0	5H22-361810-1800-40-2	
2000	6' 7"	32	6.7	5H22-321808-2000-40-2	
2400	7' 10"	27	8.0	5H22-271508-2400-40-2	
3200	10' 6"	27	10.2	5H22-271508-3200-40-2	
3200	10' 6"	32	10.3	5H22-321808-3200-40-2	
6400	21'	30	20.1	5H22-301808-6400-40-2	
8000	26' 2"	26	25.0	5H22-261508-8000-40-2	

## Tapered rock drilling tools


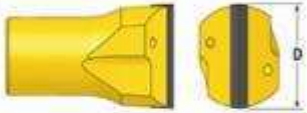
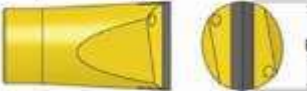
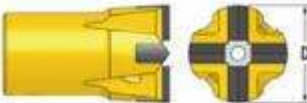
7°



Drill bit	Diameter		For class of rock	Tip size (mm)	Taper	Weight (kg)	Product NO.
	mm	inch		Height X Width			
<p>Horseshoe chisel bit</p>	26	1 1/32	10-14	10 X 7	7°	0.17	1111-26721-10/7-40-21
	28	1 7/64	10-14	10 X 7	7°	0.18	1111-28721-10/7-40-21
	30	1 3/16	8-12	13.5 X 8	7°	0.22	1111-30722-13.5/8-40-14
	30	1 3/16	10-14	13.5 X 8	7°	0.22	1111-30722-13.5/8-40-13
	32	1 1/4	8-12	13.5 X 8	7°	0.24	1111-32722-13.5/8-40-14
	32	1 1/4	10-14	13.5 X 8	7°	0.24	1111-32722-13.5/8-40-13
	34	1 11/32	8-12	13.5 X 8	7°	0.27	1111-34722-13.5/8-40-14
	34	1 11/32	10-14	13.5 X 8	7°	0.27	1111-34722-13.5/8-40-13
	36	1 27/64	8-12	13.5 X 8	7°	0.30	1111-36722-13.5/8-40-14
	36	1 27/64	10-14	13.5 X 8	7°	0.30	1111-36722-13.5/8-40-13
	38	1 1/2	8-12	13.5 X 8	7°	0.33	1111-38723-13.5/8-40-14
	38	1 1/2	10-14	13.5 X 8	7°	0.33	1111-38723-13.5/8-40-13
	38	1 1/2	8-12	15 X 9	7°	0.33	1111-38723-15/9-40-14
	38	1 1/2	10-14	15 X 9	7°	0.33	1111-38723-15/9-40-13
	40	1 37/64	8-12	13.5 X 9.2	7°	0.38	1111-40723-13.5/9.2-40-14
	40	1 37/64	10-14	13.5 X 9.2	7°	0.38	1111-40723-13.5/9.2-40-13
	40	1 37/64	14-16	13.5 X 9.2	7°	0.38	1111-40723-13.5/9.2-40-12
	40	1 37/64	16-18	13.5 X 9.2	7°	0.38	1111-40723-13.5/9.2-40-11
	40	1 37/64	8-12	15 X 9.8	7°	0.38	1111-40723-15/9.8-40-14
	40	1 37/64	10-14	15 X 9.8	7°	0.38	1111-40723-15/9.8-40-13
	40	1 37/64	14-16	15 X 9.8	7°	0.38	1111-40723-15/9.8-40-12
	40	1 37/64	16-18	15 X 9.8	7°	0.38	1111-40723-15/9.8-40-11
	42	1 2/3	8-12	13.5 X 9.2	7°	0.41	1111-42723-13.5/9.2-40-14
	42	1 21/32	10-14	13.5 X 9.2	7°	0.41	1111-42723-13.5/9.2-40-13
	42	1 21/32	14-16	13.5 X 9.2	7°	0.41	1111-42723-13.5/9.2-40-12
	42	1 21/32	16-18	13.5 X 9.2	7°	0.41	1111-42723-13.5/9.2-40-11
	42	1 21/32	8-12	15 X 9.8	7°	0.41	1111-42723-15/9.8-40-14
	42	1 21/32	10-14	15 X 9.8	7°	0.41	1111-42723-15/9.8-40-13
42	1 21/32	10-14	15 X 9.8	7°	0.41	1111-42723-15/9.8-40-12	
42	1 21/32	16-18	15 X 9.8	7°	0.41	1111-42723-15/9.8-40-11	
43	1 11/16	8-12	13.5 X 9.2	7°	0.42	1111-43723-13.5/9.2-40-14	
43	1 11/16	10-14	13.5 X 9.2	7°	0.42	1111-43723-13.5/9.2-40-13	
43	1 11/16	8-12	15 X 9.8	7°	0.42	1111-43723-15/9.8-40-14	
43	1 11/16	10-14	15 X 9.8	7°	0.42	1111-43723-15/9.8-40-13	

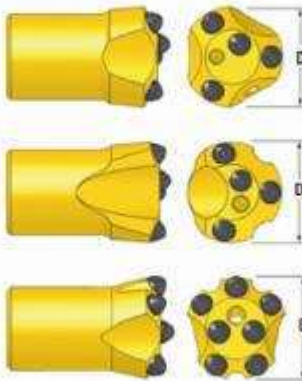


## Tapered rock drilling tools


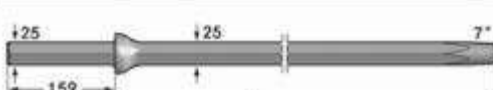
**7°**

Drill bit	Diameter		For class of rock	Tip size (mm)	Taper	Weight (kg)	Product NO.
	mm	inch		Height x Width			
<b>Oblique chipways chisel bit</b> 	20	25/32	10-14	12×6	4°	0.10	1112-20415-12/6-40-22
	22	55/64	10-14	12×6	4°	0.12	1112-22415-12/6-40-22
	24	15/16	10-14	12×6	4°	0.14	1112-24415-12/6-40-22
	26	1 1/32	10-14	12×6	4°	0.16	1112-26415-12/6-40-22
	28	1 7/64	10-14	13×8	7°	0.19	1112-28722-13/8-40-22
	30	1 3/16	10-14	13.5×8	7°	0.22	1112-30722-13/8-40-22
	32	1 1/4	10-14	13.5×8	7°	0.24	1112-32722-13/8-40-22
	33	1 19/64	10-14	13.5×8	7°	0.25	1112-33722-13/8-40-22
	34	1 11/32	10-14	13.5×8	7°	0.27	1112-34722-13/8-40-22
	36	1 27/64	10-14	13.5×8	7°	0.29	1112-36722-13/8-40-22
	38	1 1/2	10-14	13.5×8	7°	0.34	1112-38723-13/8-40-22
	40	1 37/64	10-14	13.5×9.2	7°	0.40	1112-40723-13/9-40-22
	41	1 5/8	10-14	13.5×9.2	7°	0.41	1112-41723-13/9-40-22
	42	1 21/32	10-14	13.5×9.2	7°	0.43	1112-42723-13/9-40-22
<b>Flat chipways chisel bit</b> 	38	1 1/2	10-14	16×10	7°	0.36	1113-38723-16/10-40-22
	40	1 37/64	10-14	16×10	7°	0.38	1113-40723-16/10-40-22
	41	1 5/8	10-14	16×10	7°	0.41	1113-41723-16/10-40-22
	42	1 21/32	10-14	16×10	7°	0.43	1113-42723-16/10-40-22
	45	1 3/4	10-14	22×16×10	7°	0.60	1113-45723-16/10-40-22
	46	1 3/4	10-14	22×16×10	7°	0.61	1113-46723-16/10-40-22
	48	1 7/8	10-14	22×16×10	7°	0.63	1113-48723-16/10-40-22
	50	1 31/32	10-14	22×16×10	7°	0.65	1113-50723-16/10-40-22
	56	2 1/4	10-14	24×16×10	7°	0.82	1113-56723-16/10-40-22
	60	2 23/64	10-14	26×16×10	7°	0.91	1113-60723-16/10-40-22
	65	2 1/2	10-14	26×16×10	7°	1.12	1113-65723-16/10-40-22
80	3 1/8	10-14	36×16×10	7°	1.40	1113-80723-16/10-40-22	
<b>Oblique-flat chipways chisel bit</b> 	36	1 27/64	10-14	15×10	7°	0.40	1114-36725-15/10-40-22
	38	1 1/2	10-14	15×10	7°	0.42	1114-38725-15/10-40-22
	40	1 37/64	10-14	15×10	7°	0.45	1114-40725-15/10-40-22
	41	1 5/8	10-14	15×10	7°	0.47	1114-41725-15/10-40-22
	42	1 21/32	10-14	15×10	7°	0.49	1114-42725-15/10-40-22
43	1 11/16	10-14	15×10	7°	0.51	1114-43725-15/10-40-22	
<b>Cross-type bit</b> 	30	1 3/16	11-15	12×12×8	7°	0.29	1221-30722-12/8-40-22
	32	1 1/4	11-15	12×12×8	7°	0.31	1221-32722-12/8-40-22
	33	1 19/64	11-15	12×12×8	7°	0.33	1221-33722-12/8-40-22
	34	1 11/32	11-15	12×12×8	7°	0.34	1221-34722-12/8-40-22
	35	1 3/8	11-15	12×12×8	7°	0.36	1221-35722-12/8-40-22
	36	1 27/64	11-15	13×12×8	7°	0.37	1221-36722-12/8-40-22
	38	1 1/2	11-15	14×12×8	7°	0.43	1221-38723-12/8-40-22
	40	1 37/64	11-15	15×12×8	7°	0.47	1221-40723-12/8-40-22
	41	1 5/8	11-15	15×12×8	7°	0.49	1221-41723-12/8-40-22
	42	1 21/32	11-15	15×12×8	7°	0.51	1221-42723-12/8-40-22
	43	1 11/16	11-15	15×12×8	7°	0.53	1221-43723-12/8-40-22
	45	1 3/4	11-15	17×14×8	7°	0.58	1221-45723-14/8-40-22
	48	1 7/8	11-15	17×14×8	7°	0.67	1221-48723-14/8-40-22
	50	1 31/32	11-15	19×14×8	7°	0.72	1221-50723-14/8-40-22
55	2 1/4	11-15	20×16×10	7°	0.92	1221-55725-16/10-40-22	
60	2 3/8	11-15	22×16×10	7°	1.19	1221-60725-16/10-40-22	

## Tapered rock drilling tools

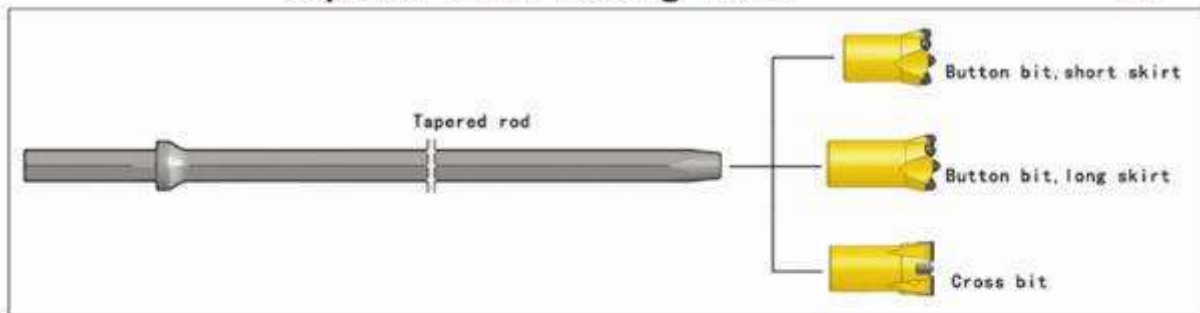
**7°**

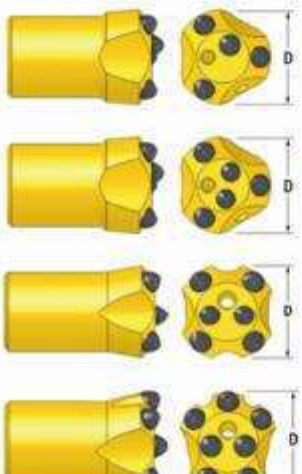
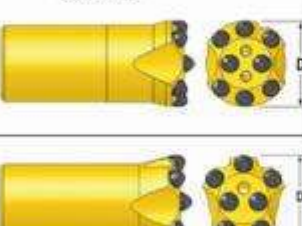
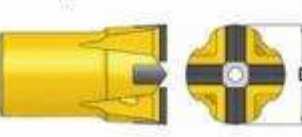
Drill bit	Diameter		No. x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit. Short skirt</b> 	32	1 1/4	1x8	3x8	35°	1	1	0.24	1431-32722-18/38-40-53
	33	1 19/64	2x7	5x7	35°	2	1	0.26	1431-33722-27/57-42-53
	34	1 11/32	2x7	4x7	40°	1	1	0.29	1431-34722-27/47-42-53
	35	1 3/8	2x7	5x8	35°	1	1	0.33	1431-35722-27/58-42-53
	36	1 27/64	1x8	3x9	40°	1	1	0.37	1431-36722-18/39-42-53
	36	1 27/64	2x7	5x8	35°	1	1	0.37	1431-36722-27/58-42-53
	38	1 1/2	1x8	3x9	35°	1	1	0.38	1431-38723-18/39-42-53
	38	1 1/2	2x7	5x8	35°	1	1	0.38	1431-38723-27/58-42-53
	38	1 1/2	2x7	5x9	40°	2	1	0.38	1431-38723-27/59-42-53
	40	1 37/64	1x8	3x9	30°	1	1	0.40	1431-40723-18/39-40-53
	40	1 37/64	1x9	3x10	30°	1	1	0.40	1431-40723-19/310-40-53
	40	1 37/64	1x9	3x9	35°	1	1	0.40	1431-40723-19/39-42-53
<b>Long skirt</b> 	40	1 37/64	2x7	5x9	35°	1	1	0.40	1431-40723-27/59-42-53
	42	1 21/32	1x8	3x9	30°	1	1	0.43	1431-42723-18/39-40-53
	42	1 21/32	1x9	3x10	30°	1	1	0.43	1431-42723-19/310-40-53
	42	1 21/32	1x9	3x9	35°	1	1	0.43	1431-42723-19/39-42-53
	42	1 37/64	2x8	5x9	35°	1	1	0.43	1431-42723-28/59-42-53
	42	1 37/64	2x7	5x7	35°	1	1	0.30	1435-32722-27/57-45-51
<b>Long skirt</b> 	33	1 19/64	2x7	5x7	35°	1	1	0.31	1435-33722-27/57-45-51
	35	1 3/8	2x7	5x8	35°	1	1	0.36	1435-35722-27/58-45-51
	38	1 1/2	2x7	5x9	35°	1	1	0.41	1435-38723-27/59-45-51
	41	1 5/8	2x7	5x9	35°	1	1	0.42	1435-41723-27/59-45-51
	41	1 5/8	2x7	5x9	35°	1	1	0.42	1435-41723-27/59-45-51

Drill rod	Length		Weight approx kg	Product NO.
	mm	Foot		
<b>Max. Tapered rod</b> 	600	2'	1.93	21H22-7/108-0600-40
	800	2' 6"	2.54	21H22-7/108-0800-40
	1000	3' 3"	3.15	21H22-7/108-1000-40
	1200	3' 9"	3.76	21H22-7/108-1200-40
	1500	4' 11"	4.68	21H22-7/108-1500-40
	1600	5' 3"	4.98	21H22-7/108-1600-40
	1800	5' 9"	5.59	21H22-7/108-1800-40
	2000	6' 7"	6.20	21H22-7/108-2000-40
	2200	7' 2"	6.81	21H22-7/108-2200-40
	2300	7' 6"	7.12	21H22-7/108-2300-40
	2400	7' 9"	7.42	21H22-7/108-2400-40
	2500	8' 2"	7.73	21H22-7/108-2500-40
	2600	8' 8"	8.03	21H22-7/108-2600-40
	3000	9' 10"	9.25	21H22-7/108-3000-40
	3500	11' 5"	10.78	21H22-7/108-3500-40
	4000	13' 1"	12.30	21H22-7/108-4000-40
	4800	14' 8"	13.83	21H22-7/108-4800-40
	5000	16' 4"	15.35	21H22-7/108-5000-40
	5500	18' 1"	16.88	21H22-7/108-5500-40
	6000	19' 7"	18.30	21H22-7/108-6000-40
	4000	13' 1"	16.10	21H25-7/159-4000-40
	4700	15' 4"	18.90	21H25-7/159-4700-40
5000	16' 4"	22.10	21H25-7/159-5000-40	
5800	18' 1"	22.10	21H25-7/159-5800-40	
6000	19' 7"	24.10	21H25-7/159-6000-40	

## Tapered rock drilling tools

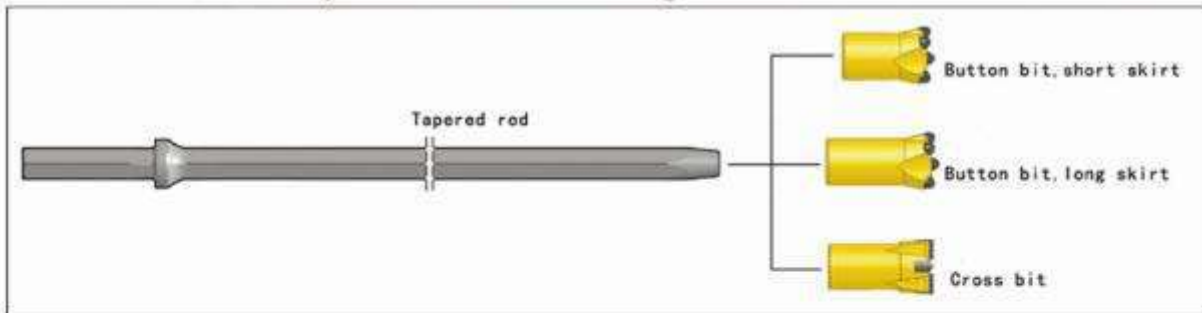
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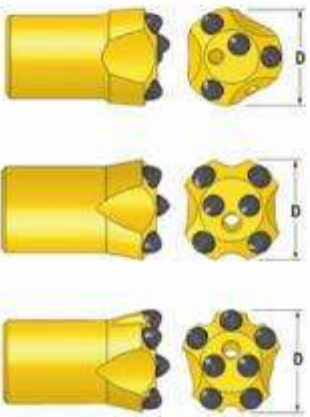
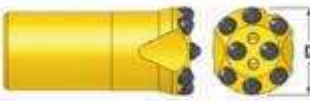
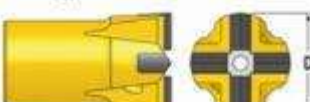


Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit, Short skirt</b> 	32	1 1/4	1x8	3x8	35°	1	2	0.24	1431-321122-16/38-45-51
	32	1 1/4	2x7	5x7	40°	1	1	0.24	1431-321122-27/57-45-51
	33	1 19/64	2x7	4x7	40°	1	1	0.25	1431-331122-27/47-45-51
	34	1 11/32	2x7	4x7	40°	1	1	0.29	1431-341122-27/47-45-51
	35	1 3/8	2x7	5x7	35°	1	1	0.33	1431-351122-27/57-45-51
	35	1 3/8	2x7	5x8	35°	1	1	0.33	1431-351122-27/58-45-51
	36	1 27/64	1x8	3x9	40°	1	1	0.36	1431-361122-18/39-45-51
	36	1 27/64	2x7	4x7	40°	1	1	0.36	1431-361122-27/47-45-51
	36	1 27/64	2x7	5x8	35°	1	1	0.36	1431-361122-27/58-45-51
	38	1 1/2	1x9	3x9	40°	1	1	0.39	1431-381122-19/39-45-51
	38	1 1/2	2x8	3x9	40°	1	1	0.39	1431-381122-26/39-45-51
	38	1 1/2	2x7	5x8	35°	1	1	0.39	1431-381122-27/58-45-51
	38	1 1/2	2x7	5x9	35°	1	1	0.39	1431-381122-27/59-45-51
	40	1 37/64	1x9	3x9	40°	1	1	0.40	1431-401122-19/39-45-51
40	1 37/64	2x8	3x9	40°	1	1	0.40	1431-401122-26/39-45-51	
40	1 37/64	2x9	3x9	40°	1	2	0.40	1431-401122-29/39-45-51	
40	1 37/64	2x7	5x9	35°	1	1	0.40	1431-401122-27/59-45-51	
40	1 37/64	2x8	5x9	35°	1	1	0.40	1431-401122-28/59-45-51	
41	1 5/8	2x7	5x9	35°	1	1	0.41	1431-411122-27/59-45-51	
<b>Long skirt</b> 	32	1 1/4	2x7	5x7	35°	1	1	0.30	1435-321122-27/57-45-51
	33	1 19/64	2x7	5x7	35°	1	1	0.31	1435-331122-27/57-45-51
	33	1 19/64	2x7	6x7	40°	2	1	0.31	1435-331122-27/67-45-51
	35	1 3/8	2x7	6x7	40°	2	1	0.35	1435-351122-27/67-45-51
	38	1 1/2	2x7	5x9	35°	1	1	0.41	1435-381122-27/59-45-51
	41	1 5/8	2x7	5x9	35°	1	1	0.42	1435-411122-27/59-45-51
	35	1 3/8	2x7	5x9	35°	1	1	0.38	1435-351125-27/59-45-51
	36	1 27/64	2x7	5x9	35°	1	1	0.39	1435-361125-27/59-45-51
	38	1 1/2	2x7	5x9	35°	1	1	0.41	1435-381125-27/59-45-51
	41	1 5/8	2x7	5x9	35°	1	1	0.42	1435-411125-27/59-45-51
<b>Cross-type bit</b> 	29	1 9/64	12x8		-	1	2	0.25	1221-291122-12/8-42-22
	30	1 3/16	12x8		-	1	2	0.26	1221-301122-12/8-42-22
	32	1 1/4	12x8		-	1	2	0.30	1221-321122-12/8-42-22
	33	1 19/64	12x8		-	1	2	0.32	1221-331122-12/8-42-22
	35	1 3/8	12x8		-	1	2	0.36	1221-351122-12/8-42-22
	36	1 27/64	12x8		-	1	2	0.39	1221-361122-12/8-42-22
	38	1 1/2	12x8		-	1	2	0.43	1221-381122-12/8-42-22
	41	1 5/8	14x8		-	1	2	0.49	1221-411122-14/8-42-22

# Tapered rock drilling tools

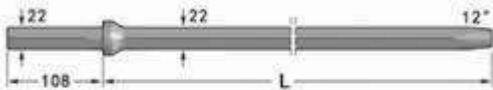
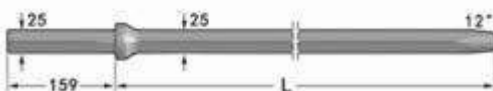
12°



Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit, Short skirt</b> 	28	1 7/64	1×7	3×7	20°	1	1	0.20	1431-281222-17/37-45-51
	28	1 7/64	1×7	4×7	35°	1	1	0.20	1431-281222-17/47-45-51
	29	1 9/64	1×7	3×7	40°	1	1	0.21	1431-291222-17/37-45-51
	30	1 3/16	1×7	3×7	40°	1	1	0.22	1431-301222-17/37-45-51
	30	1 3/16	1×7	4×7	35°	1	1	0.22	1431-301222-17/47-45-51
	30	1 3/16	2×7	4×7	30°	1	1	0.22	1431-301222-27/47-45-51
	32	1 1/4	2×7	5×7	40°	2	1	0.24	1431-321222-27/57-45-51
	33	1 19/64	2×7	5×7	35°	1	1	0.25	1431-331222-27/57-45-51
	34	1 11/32	2×7	5×8	35°	1	1	0.29	1431-341222-27/58-45-51
	35	1 3/8	2×7	4×7	35°	1	1	0.33	1431-351222-27/47-45-51
	35	1 3/8	2×7	5×8	35°	2	1	0.33	1431-351222-27/58-45-51
	35	1 3/8	2×7	5×9	35°	1	1	0.33	1431-351222-27/59-45-51
<b>Long skirt</b> 	36	1 27/64	2×7	5×9	35°	1	1	0.37	1431-361222-27/59-45-51
	37	1 29/64	2×7	5×9	40°	1	1	0.38	1431-371222-27/59-45-51
	38	1 1/2	1×9	3×9	40°	1	1	0.40	1431-381222-19/39-45-51
	38	1 1/2	2×7	5×9	35°	1	1	0.40	1431-381222-27/59-45-51
	41	1 5/8	2×7	5×9	35°	1	1	0.41	1431-411222-27/59-45-51
		32	1 1/4	2×7	5×7	35°	1	1	0.30
33		1 19/64	2×7	5×7	35°	1	1	0.31	1435-331222-27/57-45-51
33		1 19/64	2×7	6×7	40°	2	1	0.31	1435-331222-27/67-45-51
35		1 3/8	2×7	6×7	40°	2	1	0.35	1435-351222-27/67-45-51
38		1 1/2	2×7	5×9	35°	1	1	0.41	1435-381222-27/59-45-51
	35	1 3/8	2×7	5×9	35°	1	1	0.38	1435-351222-27/59-45-51
	36	1 27/64	2×7	5×9	35°	1	1	0.39	1435-361222-27/59-45-51
	38	1 1/2	2×7	5×9	35°	1	1	0.41	1435-381222-27/59-45-51
	41	1 5/8	2×7	5×9	35°	1	1	0.42	1435-411222-27/59-45-51
<b>Cross-type bit</b> 	29	1 9/64	12×8		-	1	2	0.25	1221-291222-12/8-42-22
	30	1 3/16	12×8		-	1	2	0.26	1221-301222-12/8-42-22
	32	1 1/4	12×8		-	1	2	0.30	1221-321222-12/8-42-22
	33	1 19/64	12×8		-	1	2	0.32	1221-331222-12/8-42-22
	35	1 3/8	12×8		-	1	2	0.36	1221-351222-12/8-42-22
	36	1 27/64	12×8		-	1	2	0.39	1221-361222-12/8-42-22
	38	1 1/2	12×8		-	1	2	0.43	1221-381222-12/8-42-22
	40	1 37/64	12×8		-	1	2	0.46	1221-401222-12/8-42-22
	41	1 5/8	14×8		-	1	2	0.49	1221-411222-14/8-42-22

# Tapered rock drilling tools

12°

Drill rod	Length		Weight approx. kg	Product NO.
	mm	Foot		
Hex. 22mm Tapered rod, carburized 	610	2'	2.20	21H22-12/108-0610-40
	1220	4'	4.10	21H22-12/108-1220-40
	1830	6'	5.90	21H22-12/108-1830-40
	2000	6' 7"	6.40	21H22-12/108-2000-40
	2435	8'	7.80	21H22-12/108-2435-40
	2600	8' 8"	8.30	21H22-12/108-2600-40
	3200	10' 6"	10.10	21H22-12/108-3200-40
	3655	12'	11.50	21H22-12/108-3655-40
	4000	13' 1"	12.60	21H22-12/108-4000-40
	4800	15' 9"	14.90	21H22-12/108-4800-40
	5600	18' 4"	17.40	21H22-12/108-5600-40
	6400	21'	19.80	21H22-12/108-6400-40
	7200	23' 6"	22.20	21H22-12/108-7200-40
8000	26' 2"	24.60	21H22-12/108-8000-40	
Hex. 25mm Tapered rod, carburized 	1830	6'	7.96	21H25-12/159-1830-40
	2435	8'	10.38	21H25-12/159-2435-40
	3050	10'	12.84	21H25-12/159-3050-40
	3655	12'	15.26	21H25-12/159-3655-40
	3965	13'	16.50	21H25-12/159-3965-40
	4270	14'	17.72	21H25-12/159-4270-40
	4880	16'	20.16	21H25-12/159-4880-40
	5530	18'	22.76	21H25-12/159-5530-40
	6095	20'	25.02	21H25-12/159-6095-40

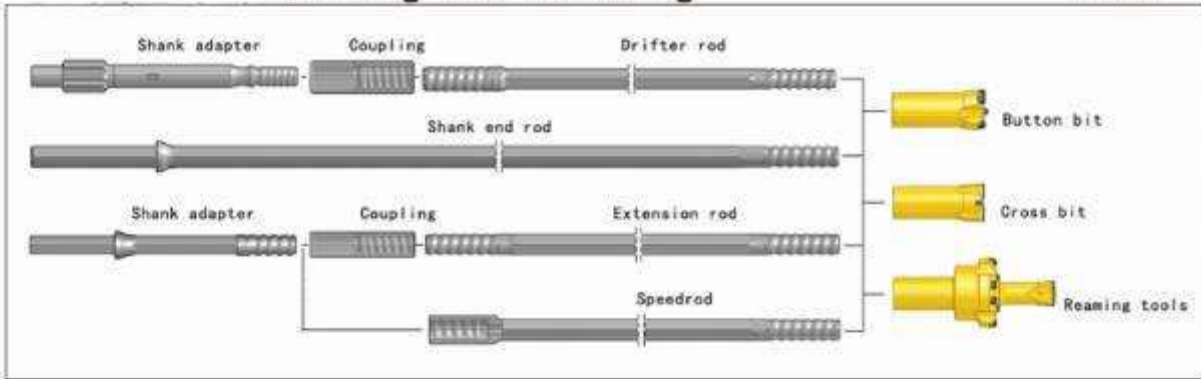


## Drifting and tunneling 台车掘进钎具

	Page
R25	14
R28	16
R32	18

# Drifting and tunneling

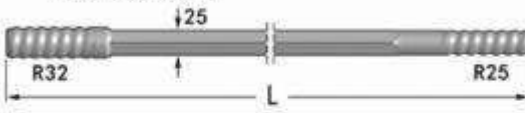
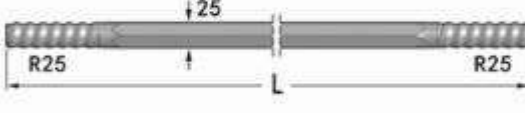
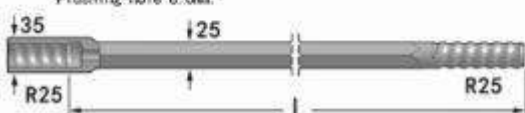
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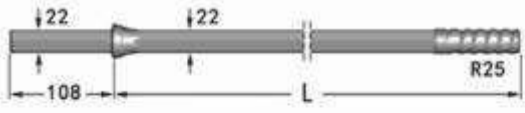
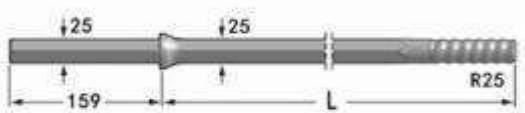




Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO
	mm	Inch	Front	Gauge	Angle	Front	Side		
<b>Spherical buttons</b>									
	33	1 19/64	2x7	5x7	35°	1	1	0.4	1431-33R25-27/57-45-41
	35	1 3/8	2x7	5x8	35°	1	1	0.4	1431-35R25-27/58-45-41
	38	1 1/2	2x7	5x8	30°	1	1	0.5	1431-38R25-27/58-45-41
	38	1 1/2	2x7	5x9	30°	1	1	0.5	1431-38R25-27/59-45-41
	41	1 5/8	2x9	4x9	35°	1	2	0.6	1431-41R25-29/49-45-41
	41	1 5/8	2x8	5x9	35°	1	1	0.6	1431-41R25-28/59-45-41
	45	1 3/4	2x9	4x11	35°	1	2	0.6	1431-45R25-29/411-45-41
	45	1 3/4	2x8	5x10	30°	1	2	0.6	1431-45R25-28/510-45-41
45	1 3/4	2x8	5x11	30°	1	2	0.6	1431-45R25-28/511-45-41	
<b>Parabolic buttons</b>									
	33	1 19/64	2x7	5x7	35°	1	1	0.4	1431-33R25-27/57-45-51
	35	1 3/8	2x7	5x9	25°	1	1	0.4	1431-35R25-27/59-45-51
	38	1 1/2	2x7	5x9	40°	1	1	0.5	1431-38R25-27/59-45-51
	41	1 5/8	2x8	5x9	40°	1	1	0.6	1431-41R25-28/59-45-51
	45	1 3/4	2x9	5x10	35°	1	2	0.6	1431-45R25-29/510-45-51
	64	2 1/2	2x10	8x9	35°	-	-	0.8	1441-646-210/89-45-41
	64	2 1/2	4x8	8x9	25°	-	-	0.8	1441-646-48/89-45-41
	76	3	2x11	8x11	35°	-	-	1.2	1441-766-211/811-45-41
	76	3	4x10	8x10	30°	-	-	1.2	1441-766-410/810-45-41
	89	3 1/2	4x11	8x11	35°	-	-	1.7	1441-896-411/811-45-41
	89	3 1/2	4x10	8x10	30°	-	-	1.7	1441-896-410/810-45-41
	26	1 1/32	12x8		-	-	-	1.3	1442-26R25-12/8-42-22
	33	1 19/64	14x8		-	1	2	0.4	1221-33R25-14/8-42-23
	35	1 3/8	14x8		-	1	2	0.5	1221-35R25-14/8-42-23
	38	1 1/2	14x8		-	1	4	0.6	1221-38R25-14/8-42-23
	41	1 5/8	14x8		-	1	4	0.7	1221-41R25-14/8-42-23
	43	1 11/16	14x8		-	1	4	0.7	1221-43R25-14/8-42-23
	45	1 3/4	14x8		-	1	2	0.8	1221-45R25-14/8-42-23
	51	2	14x8		-	1	4	1.1	1221-51R25-14/8-42-23

## Drifting and tunneling

## R25

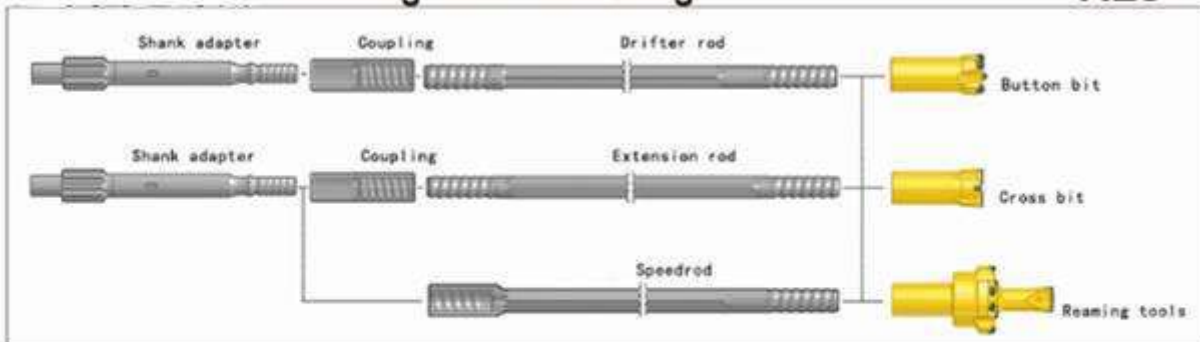
Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
<b>Drifter rod, R32-Hex25-R25</b> Flushing hole 8.6mm. 	2100	7'	25	1"	8.6	22H25-R25/R32-2100-23
	2400	8'	25	1"	9.6	22H25-R25/R32-2400-23
	2600	8' 8"	25	1"	10.4	22H25-R25/R32-2600-23
	2800	9'	25	1"	11.1	22H25-R25/R32-2800-23
	3090	10'	25	1"	12.2	22H25-R25/R32-3090-23
	3700	12'	25	1"	14.6	22H25-R25/R32-3700-23
<b>Extension rod, R25-Hex25-R25</b> Flushing hole 8.6mm. 	915	3'	25	1"	3.4	23H25-R25-0915-23
	1000	3' 33/8"	25	1"	4.0	23H25-R25-1000-23
	1220	4'	25	1"	4.6	23H25-R25-1220-23
	1525	5'	25	1"	5.8	23H25-R25-1525-23
	1830	6'	25	1"	7.0	23H25-R25-1830-23
	2435	8'	25	1"	9.3	23H25-R25-2435-23
<b>Speedrod, R25-Hex25-R25</b> Flushing hole 8.6mm. 	610	2'	25	1"	2.7	24H25-R25/35-0610-23
	1220	4'	25	1"	5.1	24H25-R25/35-1220-23

Shank end rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
<b>Shank adapter/rod</b> 	22mm X 108mm		Shank 22mm X 108mm			
	610	2'	22	7/8	2.6	21H22-R25/108-0610-40
	760	2' 6"	22	7/8	2.9	21H22-R25/108-0760-40
	1000	3' 3"	22	7/8	3.7	21H22-R25/108-1000-40
	1200	4'	22	7/8	4.4	21H22-R25/108-1200-40
	1830	6'	22	7/8	6.3	21H22-R25/108-1830-40
	25mm X 159mm		Shank 25mm X 159mm			
	2700	8' 10"	25	1"	11.3	21H25-R25/159-2700-40
	3200	10' 6"	25	1"	13.7	21H25-R25/159-3200-40
	3600	12'	22	7/8	12.0	21H22-R25/108-3600-40

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
<b>Coupling sleeves</b> 	155	6 1/8	44	1 3/4	R32	1.0	31-R32-44-155-23
	150	5 7/8	35	1 3/8	R25	0.7	31-R25-35-150-23
	160	6 5/16	38	1 1/2	R25	1.3	31-R25-38-160-23
<b>Coupling sleeves of different diameter</b> 	150	5 7/8	45	1 3/4	R25-R32	1.1	33-R25/R32-45-150-23
	160	6 5/16	45	1 3/4	R25-R32	1.2	33-R25/R32-45-160-23
	160	6 5/16	56	1 13/64	R25-R38	2.5	33-R25/R38-56-160-23
	170	6 3/4	56	1 13/64	R25-T38	3.2	33-R25/T38-56-170-23

# Drifting and tunneling

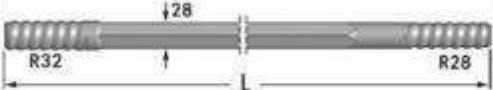
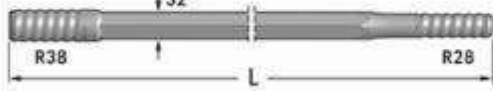
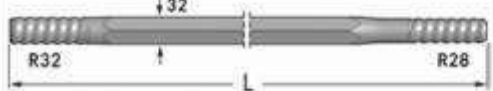
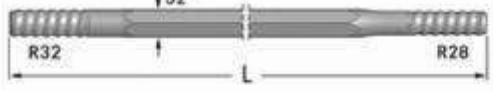
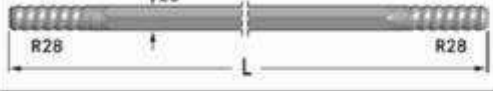
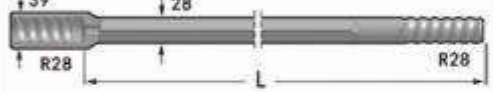
# R28




Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Spher ical buttons</b>									
<b>Button bit</b> 	37	1 29/64	2X7	5X9	30°	1	1	0.5	1431-37R28-27/59-45-41
	38	1 1/2	2X8	4X9	30°	1	2	0.6	1431-38R28-28/49-45-41
	38	1 1/2	2X7	5X9	30°	1	1	0.6	1431-38R28-27/59-45-41
	41	1 5/8	2X8	5X9	35°	1	1	0.7	1431-41R28-28/59-45-41
	43	1 11/16	2X9	5X9	35°	1	2	0.8	1431-43R28-29/59-45-41
	45	1 3/4	2X9	5X10	30°	1	2	0.9	1431-45R28-29/510-45-41
	<b>Parabolic buttons</b>								
	37	1 29/64	2X7	5X9	30°	1	1	0.5	1431-37R28-27/59-45-51
	38	1 1/2	2X8	4X9	30°	1	2	0.6	1431-38R28-28/49-45-51
	38	1 1/2	2X7	5X9	30°	1	1	0.6	1431-38R28-27/59-45-51
	41	1 5/8	2X8	5X9	35°	1	1	0.7	1431-41R28-28/59-45-51
	43	1 11/16	2X9	5X9	35°	1	2	0.8	1431-43R28-29/59-45-51
	45	1 3/4	2X9	5X10	30°	1	2	0.9	1431-45R28-29/510-45-51
	45	1 3/4	3X8	6X9	35°	1	3	0.9	1431-45R28-38/69-45-51
	48	1 7/8	2X9	5X11	30°	1	2	1.0	1431-48R28-29/511-45-51
	48	1 7/8	3X8	6X9	35°	1	3	1.0	1431-48R28-38/69-45-51
<b>Reaming bit 6°</b> 	64	2 1/2	2X10	8X9	35°	-	-	0.8	1441-646-210/89-45-41
	64	2 1/2	4X8	8X9	25°	-	-	0.8	1441-646-48/89-45-41
	76	3	2X11	8X11	35°	-	-	1.2	1441-766-211/811-45-41
	76	3	4X10	8X10	30°	-	-	1.2	1441-766-410/810-45-41
	89	3 1/2	4X11	8X11	35°	-	-	1.7	1441-896-411/811-45-41
	89	3 1/2	4X10	8X10	30°	-	-	1.7	1441-896-410/810-45-41
<b>Pilot adapter 6°</b> 	26	1 1/32	12X8		-	-	-	1.5	1442-26R28-12/8-42-22
<b>Cross-type bit</b> 	38	1 1/2	14X8		-	1	2	0.6	1221-38R28-14/8-42-23
	41	1 5/8	14X8		-	1	4	0.7	1221-41R28-14/8-42-23
	43	1 11/16	14X8		-	1	4	0.7	1221-43R28-14/8-42-23
	45	1 3/4	14X8		-	1	4	0.9	1221-45R28-14/8-42-23
	61	2	14X8		-	1	4	1.1	1221-61R28-14/8-42-23

## Drifting and tunneling

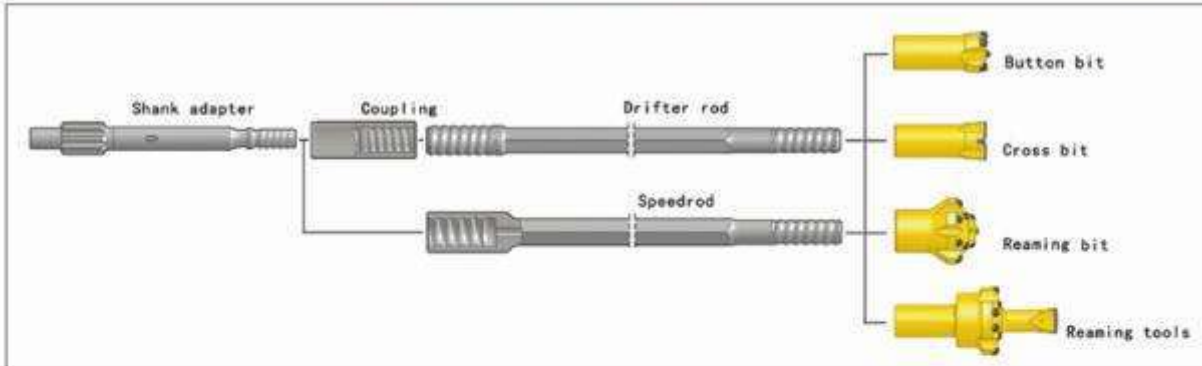
## R28

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Drifter rod, R32-Hex28-R28 Flushing hole 8.8mm. 	2400	7'10"	28	1 1/8	12.2	22H28-R28/R32-2400-23
	2750	9'	28	1 1/8	14.4	22H28-R28/R32-2750-23
	3700	12'11/2"	28	1 1/8	18.9	22H28-R28/R32-3700-23
	4000	13'13/8"	28	1 1/8	20.4	22H28-R28/R32-4000-23
	4310	14'11/2"	28	1 1/8	22.0	22H28-R28/R32-4310-23
	4920	16'11/2"	28	1 1/8	25.3	22H28-R28/R32-4920-23
Drifter rod, R38-Hex32-R28 Flushing hole 9.6mm. 	2900	9'61/8"	32	1 1/4	18.8	22H32-R28/R38-2900-23
	3090	10'11/2"	32	1 1/4	20.0	22H32-R28/R38-3090-23
	3700	12'11/2"	32	1 1/4	24.0	22H32-R28/R38-3700-23
	4310	14'11/2"	32	1 1/4	27.9	22H32-R28/R38-4310-23
Drifter rod, R32-Hex32-R28 Flushing hole 9.6mm. 	3090	10'11/2"	32	1 1/4	20.0	22H32-R28/R32-3090-23
	3700	12'11/2"	32	1 1/4	23.5	22H32-R28/R32-3700-23
Drifter rod, R32-Hex32-R28 Flushing hole 9.6mm. With slanted shank end for female shank. 	3090	10'11/2"	32	1 1/4	20.0	22H32-R28/R32N-3090-23
	3700	12'11/2"	32	1 1/4	24.0	22H32-R28/R32N-3700-23
	4000	13'13/8"	32	1 1/4	25.9	22H32-R28/R32N-4000-23
	4310	14'11/2"	32	1 1/4	27.9	22H32-R28/R32N-4310-23
Extension rod, R28-Hex28-R28 Flushing hole 8.8mm. 	3050	10'	28	1 1/8	15.0	23H28-R28-3050-23
Speedrod, R28-Hex28-R28 Flushing hole 8.8mm. 	3050	10'	28	1 1/8	15.0	24H28-R28/39-3050-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
Coupling sleeves 	150	5 7/8	44	1 3/4	R32	1.0	31-R32-44-150-23
	150	5 7/8	40	1 37/64	R28	0.9	31-R28-40-150-23
	170	6 3/4	55	2 5/32	R38	2.0	31-R38-55-170-23
Coupling sleeves of different diameter	160	6 5/16	45	1 3/4	R28-R32	1.2	33-R28/R32-45-160-23
	160	6 5/16	56	1 13/64	R28-R38	2.5	33-R28/R38-56-160-23

# Drifting and tunneling


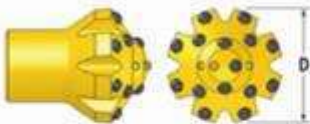





# R32



Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	Inch	Front	Gauge	Angle	Front	Side		
Spherical buttons									
	41	1 5/8	2x9	4x9	35°	1	1	0.6	1431-41R32-29/49-45-41
	41	1 5/8	2x8	5x9	35°	1	1	0.7	1431-41R32-28/59-45-41
	43	1 11/16	2x9	5x9	35°	1	2	0.7	1431-43R32-29/59-45-41
	43	1 11/16	2x9	5x10	35°	1	1	0.7	1431-43R32-29/510-45-41
	43	1 11/16	2x9	6x9	40°	2	-	0.7	1431-43R32-29/69-45-41
	45	1 3/4	2x9	5x11	30°	1	1	0.8	1431-45R32-29/511-45-41
	45	1 3/4	2x9	6x10	35°	2	-	0.8	1431-45R32-29/610-45-41
	45	1 3/4	3x8	6x10	30°	3	-	0.8	1431-45R32-38/610-45-41
	48	1 7/8	2x9	5x11	35°	1	1	0.9	1431-48R32-29/511-45-41
	48	1 7/8	2x9	6x10	40°	2	-	0.9	1431-48R32-29/610-45-41
	48	1 7/8	3x8	6x10	40°	3	-	0.9	1431-48R32-38/610-45-41
	48	1 7/8	3x9	6x10	30°	3	-	0.9	1431-48R32-39/610-45-41
	51	2	2x10	5x11	35°	1	1	1.0	1431-51R32-210/511-45-41
	51	2	2x10	6x10	40°	2	-	1.0	1431-51R32-210/610-45-41
	51	2	3x9	6x10	35°	3	-	1.0	1431-51R32-39/610-45-41
	57	2 1/4	3x9	6x11	35°	3	-	1.3	1431-57R32-39/611-45-41
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	1.6	1433-64R32-410/611-45-41
	64	2 1/2	4x10	8x10	40°	2	-	1.6	1431-64R32-410/810-45-41
	76	3	4x11	8x11	40°	2	-	2.6	1431-76R32-411/811-45-41
	Parabolic buttons								
	41	1 5/8	2x8	5x9	40°	1	1	0.7	1431-41R32-28/59-45-51
	43	1 11/16	2x9	5x9	40°	1	2	0.7	1431-43R32-29/59-45-51
	43	1 11/16	2x9	6x9	40°	2	-	0.7	1431-43R32-29/69-45-51
	43	1 11/16	3x8	6x8	40°	3	1	0.7	1431-43R32-38/68-45-51
	45	1 3/4	2x9	5x11	30°	1	2	0.8	1431-45R32-29/511-45-51
	45	1 3/4	2x9	6x9	40°	2	2	0.8	1431-45R32-29/69-45-51
	45	1 3/4	3x8	6x9	40°	3	1	0.8	1431-45R32-38/69-45-51
	48	1 7/8	2x9	5x11	35°	1	1	0.9	1431-48R32-29/511-45-51
	48	1 7/8	2x9	6x10	40°	2	-	0.9	1431-48R32-29/610-45-51
	48	1 7/8	3x8	6x10	40°	3	-	0.9	1431-48R32-38/610-45-51
	51	2	2x10	6x10	40°	2	-	1.0	1431-51R32-210/610-45-51
	51	2	3x9	6x10	40°	3	1	1.0	1431-51R32-39/610-45-51
	54	2 1/8	3x9	6x10	40°	3	1	1.0	1431-54R32-39/610-45-51
	57	2 1/4	3x9	6x11	35°	3	-	1.3	1431-57R32-39/611-45-51
	64	2 1/2	4x10	8x10	40°	2	-	1.6	1431-64R32-410/810-45-51

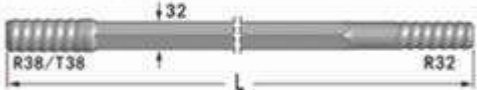
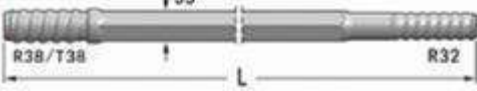
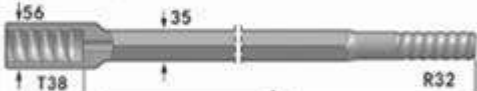
# Drifting and tunneling


# R32

Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.	
	mm	inch	Front	Gauge	Angle	Front	Side			
<b>Retrac button bit</b> 	Spherical buttons									
	45	1 3/4	3×8	6×9	40°	3	-	1.1	1531-49R32-38/69-45-41	
	46	1 7/8	3×9	6×10	30°	3	-	1.2	1531-48R32-39/610-45-41	
	51	2	3×9	6×10	30°	3	-	1.4	1531-51R32-39/610-45-41	
	64	2 1/2	3×10, 1×10	6×11	35°	3	-	2.2	1533-64R32-410/611-45-41	
	64	2 1/2	4×10	8×10	40°	2	-	2.2	1531-64R32-410/610-45-41	
	76	3	4×11, 1×11	8×11	35°	4	1	3.5	1533-76R32-511/611-45-41	
	Parabolic buttons									
	45	1 3/4	3×8	6×9	40°	3	-	1.1	1531-49R32-38/69-45-51	
	46	1 7/8	3×9	6×10	30°	3	-	1.2	1531-48R32-39/610-45-51	
	51	2	3×9	6×10	30°	3	-	1.4	1531-51R32-39/610-45-51	
	64	2 1/2	3×10, 1×10	6×11	35°	3	-	2.2	1533-64R32-410/611-45-51	
	64	2 1/2	4×10	8×10	40°	2	-	2.2	1531-64R32-410/610-45-51	
	76	3	4×11, 1×11	8×11	35°	4	1	3.5	1533-76R32-511/611-45-51	
<b>Done bit for reaming</b> 	Spherical buttons									
	76	3	1×13	9×13	35°	3	1	2.0	1441-76R32-113/913-45-41	
	89	3 1/2	1×13	14×13	35°	2	2	2.6	1441-89R32-113/1413-45-41	
	102	4	1×13	16×13	35°	2	2	3.2	1441-102R32-113/1613-45-41	
	127	5	1×13	18×13	35°	3	1	4.8	1441-127R32-113/1813-45-41	
	Parabolic buttons									
	76	3	1×13	9×13	35°	3	1	2.0	1441-76R32-113/913-45-51	
	89	3 1/2	1×13	14×13	35°	2	2	2.6	1441-89R32-113/1413-45-51	
	102	4	1×13	16×13	35°	2	2	3.2	1441-102R32-113/1613-45-51	
	127	5	1×13	18×13	35°	3	1	4.8	1441-127R32-113/1813-45-51	
	<b>Reaming bit 6"</b> 	64	2 1/2	2×10	8×9	35°	-	-	0.8	1441-646-210/89-45-41
		64	2 1/2	4×8	8×9	25°	-	-	0.8	1441-646-48/89-45-41
		76	3	2×11	8×11	35°	-	-	1.2	1441-766-211/611-45-41
		76	3	4×10	8×10	30°	-	-	1.2	1441-766-410/610-45-41
89		3 1/2	4×11	8×11	35°	-	-	1.7	1441-896-411/611-45-41	
89		3 1/2	4×10	8×10	30°	-	-	1.7	1441-896-410/610-45-41	
<b>Pilot adaptor 6"</b> 		26	1 1/32	12×8		-	-	-	1.5	1442-26R32-12/8-42-22
		<b>Reaming bit 12"</b> 	89	3 1/2	4×10	8×12	35°	-	-	1.8
	102		4	4×12	8×12	35°	-	-	2.1	1441-10212-412/612-45-41
	127		5	4×12	8×12	35°	-	-	4.0	1441-12712-412/612-45-41
127	5		4×13	8×13	35°	-	-	4.0	1441-12712-413/613-45-41	
<b>Pilot adaptor 12"</b> 	40	1 37/64	15×10		-	-	-	2.2	1442-40R32-15/10-42-22	
<b>Cross-type bit</b> 	41	1 5/8	16×10		-	1	4	0.7	1221-41R32-16/10-42-23	
	43	1 11/16	16×10		-	1	2	0.8	1221-43R32-16/10-42-23	
	45	1 3/4	16×10		-	1	4	0.9	1221-45R32-16/10-42-23	
	48	1 7/8	16×10		-	1	4	0.9	1221-48R32-16/10-42-23	
	51	2	16×10		-	1	4	1.2	1221-51R32-16/10-42-23	
	57	2 1/4	16×10		-	1	4	1.3	1221-57R32-16/10-42-23	
	64	2 1/2	18×13		-	1	4	1.5	1221-64R32-18/13-42-23	

## Drifting and tunneling

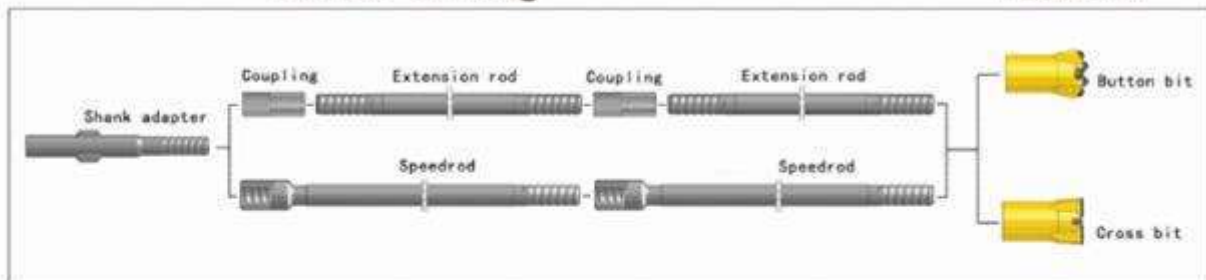
## R32

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Drifter rod, R/T38-Hex32-R32 Flushing hole 9.5mm. 	2400	7'10"	32	1 1/4	15.3	22H32-R32/T38-2400-23
	3090	10'11/2"	32	1 1/4	19.8	22H32-R32/T38-3090-23
	3400	11'13/4"	32	1 1/4	21.7	22H32-R32/T38-3400-23
	4000	13'13/8"	32	1 1/4	26.5	22H32-R32/T38-4000-23
	4310	14'11/2"	32	1 1/4	27.5	22H32-R32/T38-4310-23
	4920	16'11/2"	32	1 1/4	31.3	22H32-R32/T38-4920-23
	5530	18'11/2"	32	1 1/4	35.2	22H32-R32/T38-5530-23
Drifter rod, R/T38-Hex35-R32 Flushing hole 9.5mm. 	3090	10'11/2"	35	1 3/8	24.0	22H35-R32/T38-3090-23
	3700	12'11/2"	35	1 3/8	26.7	22H35-R32/T38-3700-23
	4000	13'13/8"	35	1 3/8	31.1	22H35-R32/T38-4000-23
	4310	14'11/2"	35	1 3/8	33.4	22H35-R32/T38-4310-23
	4920	16'11/2"	35	1 3/8	37.8	22H35-R32/T38-4920-23
	5530	18'11/2"	35	1 3/8	42.9	22H35-R32/T38-5530-23
	6100	20'	35	1 3/8	47.3	22H35-R32/T38-6100-23
Speedrod, T38-Hex35-R32 Flushing hole 9.5mm. 	3700	12'11/2"	35	1 3/8	29.0	24H35-R32/T38-3700-23
	4310	14'11/2"	35	1 3/8	34.1	24H35-R32/T38-4310-23
	4920	16'11/2"	35	1 3/8	38.8	24H35-R32/T38-4920-23
	5530	18'11/2"	35	1 3/8	43.6	24H35-R32/T38-5530-23
	6400	21'	35	1 3/8	50.3	24H35-R32/T38-6400-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
Coupling sleeves	170	6 3/4	55	2 5/32	R38	1.8	31-R38-55-170-23
	190	7 1/2	55	2 5/32	T38	2.0	31-T38-55-190-23
Coupling sleeves of different diameter 	150	6 1/8	45	1 3/4	R25-R32	1.1	33-R25/R32-45-150-23
	160	6 1/4	45	1 3/4	R25-R32	1.2	33-R25/R32-45-160-23
	160	6 1/4	45	1 3/4	R28-R32	1.2	33-R28/R32-45-160-23
	160	6 1/4	55	2 5/32	R32-R38	1.8	33-R32/R38-55-160-23
	170	6 3/4	55	2 5/32	R32-R38	2.0	33-R32/R38-55-170-23
	180	7 1/16	55	2 5/32	R32-R38	2.2	33-R32/R38-55-180-23
	210	8 1/4	55	2 5/32	R32-R38	2.8	33-R32/R38-55-210-23
	170	6 3/4	56	2 1/8	R32-T38	2.1	33-R32/T38-56-170-23
	180	7 1/16	56	2 1/8	R32-T38	2.2	33-R32/T38-56-180-23
	210	8 1/4	56	2 1/8	R32-T38	2.8	33-R32/T38-56-210-23
	190	7 1/2	63	2 33/64	R32-T45	3.2	33-R32/T45-63-190-23

## Bench drilling


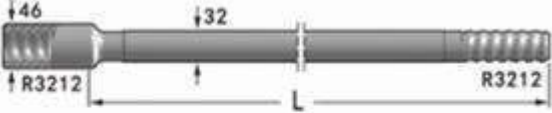
## R3212




Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit</b> 	48	1 7/8	2x9	3x11	35°	1	1	0.7	1431-48R3212-29/311-45-62
	48	1 7/8	2x9	5x11	35°	1	1	0.7	1431-48R3212-29/511-45-62
	55	2 1/8	1x12	3x14	35°	1	1	0.9	1431-55R3212-112/314-45-62
	55	2 1/8	2x10, 1x10	4x12	35°	1	1	0.8	1434-55R3212-310/412-45-62
	55	2 1/8	2x10, 1x10	4x10	35°	1	1	0.8	1434-55R3212-310/410-45-62
	55	2 1/8	3x9	6x10	35°	3	-	0.9	1431-55R3212-39/610-45-62
	60	2 3/8	2x12	3x14	40°	1	1	1.0	1431-60R3212-212/314-45-62
	60	2 3/8	2x11	5x12	40°	1	1	1.0	1431-60R3212-211/512-45-62
	60	2 3/8	2x10, 1x10	4x12	40°	2	1	0.9	1434-60R3212-310/412-45-62
	60	2 3/8	2x10	6x11	40°	3	-	1.1	1431-60R3212-310/611-45-62
	65	2 1/2	2x13	3x14	40°	1	1	1.1	1431-65R3212-213/314-45-62
	65	2 1/2	3x12	3x14	40°	1	1	1.1	1431-65R3212-312/314-45-62
	65	2 1/2	2x12, 1x12	4x12	40°	1	1	1.2	1434-65R3212-312/412-45-62
	65	2 1/2	2x12, 1x10	4x14	35°	1	1	1.5	1434-65R3212-312/414-45-62
	65	2 1/2	3x12	6x12	35°	1	1	1.2	1431-65R3212-312/612-45-62
	65	2 1/2	3x12	6x12	35°	3	-	1.2	1431-65R3212-312/612-45-62
	70	2 3/4	3x12	3x14	35°	1	1	1.6	1431-70R3212-312/314-45-62
	70	2 3/4	3x12	6x12	35°	1	1	1.4	1431-70R3212-312/612-45-62
70	2 3/4	3x12	6x12	35°	3	-	1.4	1431-70R3212-312/612-45-62	
75	3	5x10	6x12	35°	2	1	1.7	1431-75R3212-510/612-45-62	
<b>Cross-type bits</b> 	55	2 1/8	16x10		-	1	2	0.8	1221-55R3212-16/10-42-23
	60	2 3/8	16x10		-	1	2	0.9	1221-60R3212-16/10-42-23
	65	2 1/2	16x10		-	1	2	1.0	1221-65R3212-16/10-42-23
	70	2 3/4	16x10		-	1	2	1.1	1221-70R3212-16/10-42-23
	75	3	18x13		-	1	2	1.3	1221-75R3212-18/13-42-23
	80	3 1/8	18x13		-	1	2	1.6	1221-80R3212-18/13-42-23

## Bench drilling

## R3212

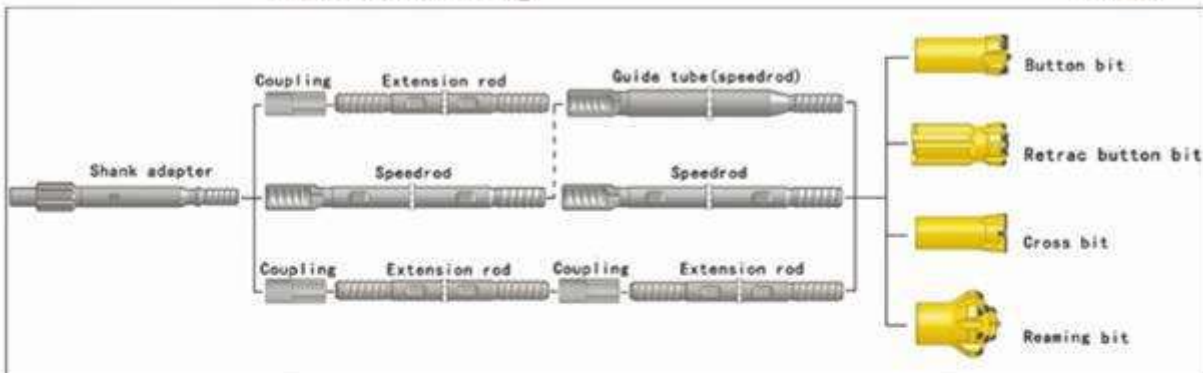
Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Extension rod R3212-Round32-R3212 Flushing hole 9.2mm 	600	2'	32	1 1/4	3.53	23R32-R3212-6600-40
	800	2'7"	32	1 1/4	4.70	23R32-R3212-6800-40
	900	2'	32	1 1/4	5.30	23R32-R3212-0900-40
	1000	3'3"	32	1 1/4	5.90	23R32-R3212-1000-40
	1100	3'6"	32	1 1/4	6.52	23R32-R3212-1100-40
	1200	3'9"	32	1 1/4	7.10	23R32-R3212-1200-40
MF-rod R3212-Round32-R3212 Flushing hole 9.2mm 	600	2'	32	1 1/4	4.45	24R32-R3212/46-6600-40
	800	2'7"	32	1 1/4	5.60	24R32-R3212/46-6800-40
	900	2'	32	1 1/4	6.17	24R32-R3212/46-6900-40
	1000	3'3"	32	1 1/4	6.80	24R32-R3212/46-1000-40
	1100	3'6"	32	1 1/4	7.40	24R32-R3212/46-1100-40
	1200	3'9"	32	1 1/4	7.90	24R32-R3212/46-1200-40

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
Coupling sleeves 	150	6 1/8	44	1 3/4	R3212	1.0	31-R3212-44-150-42
	160	6 1/4	44	1 3/4	R3212	1.1	31-R3212-44-160-42
	160	6 1/4	48	1 7/8	R3212	1.5	31-R3212-48-160-42

Shank adaptors	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
For 90 drills 	330	1 1/12	56	2 1/4	R3212	2.3	4N/90-38R3212-10330-42

# Bench drilling

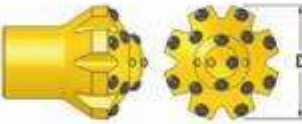
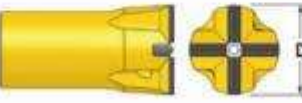
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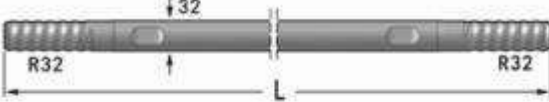
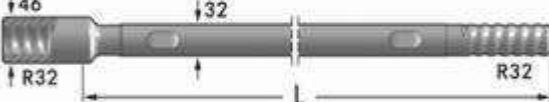



Drill bit	Diameter		No.xbutton diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit</b> 	Spherical buttons								
	48	1 7/8	2x9	5x11	35°	1	2	1.0	1431-48R32-29/511-45-31
	48	1 7/8	3x8	6x10	40°	3	-	0.9	1431-48R32-38/610-45-31
	51	2	2x10	5x11	35°	1	2	1.0	1431-51R32-210/511-45-31
	51	2	3x9	6x10	35°	3	-	1.0	1431-51R32-39/610-45-31
	57	2 1/4	3x9	6x11	35°	3	-	1.3	1431-57R32-39/611-45-31
	57	2 1/4	3x10	6x11	35°	3	-	1.3	1431-57R32-310/611-45-31
	64	2 1/2	3x11	6x12	30°	3	-	1.6	1431-64R32-311/612-45-31
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	1.6	1433-64R32-410/611-45-31
	64	2 1/2	4x10	8x10	40°	2	-	1.6	1431-64R32-410/810-45-31
	70	3	4x11	8x11	40°	2	-	2.6	1431-70R32-411/811-45-31
	76	3	4x11, 1x11	8x11	35°	2	-	2.6	1433-76R32-511/811-45-31
	Parabolic buttons								
	48	1 7/8	3x8	6x10	40°	3	-	0.9	1431-48R32-38/610-45-51
51	2	3x9	6x10	40°	3	1	1.0	1431-51R32-39/610-45-51	
54	2 1/8	3x9	6x10	40°	3	1	1.0	1431-54R32-39/610-45-51	
57	2 1/4	3x9	6x11	35°	3	-	1.3	1431-57R32-39/611-45-51	
57	2 1/4	3x10	6x11	35°	3	-	1.3	1431-57R32-310/611-45-51	
64	2 1/2	4x10	8x10	40°	2	-	1.6	1431-64R32-410/810-45-51	
<b>Retrac button bit</b> 	Spherical buttons								
	48	1 7/8	3x8	6x10	40°	3	-	1.2	1531-48R32-38/610-45-31
	51	2	3x9	6x10	35°	3	-	1.4	1531-51R32-39/610-45-31
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	2.2	1533-64R32-410/611-45-31
	64	2 1/2	4x10	8x10	40°	2	-	2.2	1531-64R32-410/810-45-31
	76	3	4x11, 1x11	8x11	35°	4	1	3.5	1533-76R32-511/811-45-31
	Parabolic buttons								
	48	1 7/8	3x9	6x10	30°	3	-	1.2	1531-48R32-39/610-45-51
	51	2	3x9	6x10	30°	3	-	1.4	1531-51R32-39/610-45-51
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	2.2	1533-64R32-410/611-45-51
	64	2 1/2	4x10	8x10	40°	2	-	2.2	1531-64R32-410/810-45-51
	76	3	4x11, 1x11	8x11	35°	4	1	3.5	1533-76R32-511/811-45-51

# Bench drilling

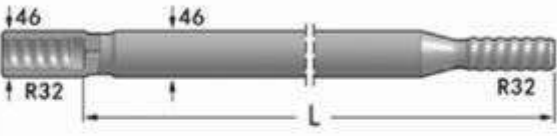
# R32


Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
Dome bit for reaming 	Spherical buttons								
	76	3	1×13	9×13	35°	3	1	2.0	1441-76R32-113/913-45-31
	89	3 1/2	1×13	14×13	35°	2	2	2.6	1441-89R32-113/1413-45-31
	102	4	1×13	16×13	35°	2	2	3.2	1441-102R32-113/1613-45-31
	127	5	1×13	18×13	35°	3	1	4.8	1441-127R32-113/1813-45-31
	Parabolic buttons								
	76	3	1×13	9×13	35°	3	1	2.0	1441-76R32-113/913-45-51
	89	3 1/2	1×13	14×13	35°	2	2	2.6	1441-89R32-113/1413-45-51
	102	4	1×13	16×13	35°	2	2	3.2	1441-102R32-113/1613-45-51
	127	5	1×13	18×13	35°	3	1	4.8	1441-127R32-113/1813-45-51
Cross-type bits 	45	1 3/4	16×10		-	1	4	0.9	1221-45R32-16/10-42-23
	48	1 7/8	16×10		-	1	4	0.9	1221-48R32-16/10-42-23
	51	2	16×10		-	1	4	1.2	1221-51R32-16/10-42-23
	57	2 1/4	16×10		-	1	4	1.3	1221-57R32-16/10-42-23
	64	2 1/2	18×13		-	1	4	1.5	1221-64R32-18/13-42-23

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Extension rod R32-Round32-R32 Flushing hole 9.2mm. Wrench flat 25.4mm. 	915	3'	32	1 1/4	5.4	23R32-R32-0915-23
	1000	3'31/8"	32	1 1/4	5.9	23R32-R32-1000-23
	1220	4'	32	1 1/4	7.2	23R32-R32-1220-23
	1830	6'	32	1 1/4	10.8	23R32-R32-1830-23
	2435	8'	32	1 1/4	14.3	23R32-R32-2435-23
	3050	10'	32	1 1/4	17.9	23R32-R32-3050-23
	3660	12'	32	1 1/4	21.5	23R32-R32-3660-23
MF-rod R32-Round32-R32 Flushing hole 9.2mm. Wrench flat 25.4mm. 	915	3'	32	1 1/4	6.2	24R32-R32/46-0915-23
	1220	4'	32	1 1/4	8.0	24R32-R32/46-1220-23
	1525	5'	32	1 1/4	9.8	24R32-R32/46-1525-23
	1830	6'	32	1 1/4	11.6	24R32-R32/46-1830-23
	2435	8'	32	1 1/4	15.1	24R32-R32/46-2435-23
	3050	10'	32	1 1/4	18.7	24R32-R32/46-3050-23
Guide speedrod R32-Round39-R32 Flushing hole 14.5mm. 	3050	10'	39	1 1/2	27.0	24R39-R32/46-3050-23
	3660	12'	39	1 1/2	32.0	24R39-R32/46-3660-23

# Bench drilling

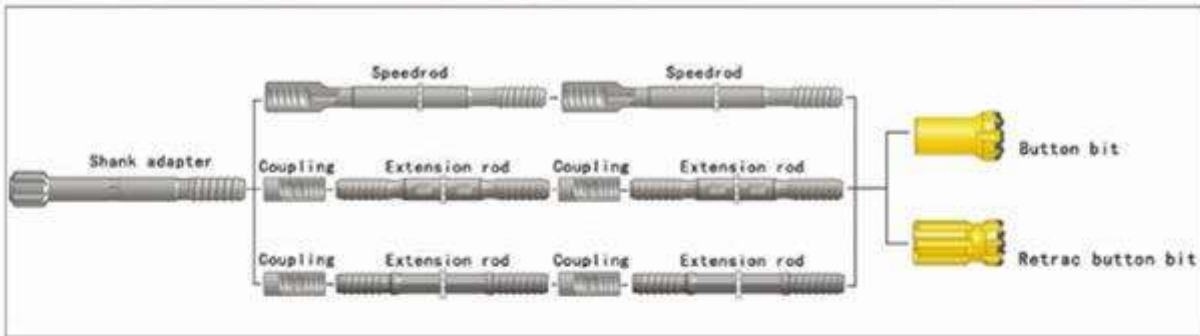
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Guide tube	Length		Diameter		Weight approx kg	Product NO.
	mm	inch	mm	inch		
<p>Guide tube D46 51-64mm杆头 D46 for bits from 51-64mm</p> 	1220	4'	46	1 3/4	10.0	24R46-R32/46-1220-23
	1525	5'	46	1 3/4	12.9	24R46-R32/46-1525-23
	1830	6'	46	1 3/4	14.2	24R46-R32/46-1830-23
	3050	10'	46	1 3/4	25.0	24R46-R32/46-3050-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
<p>Coupling sleeves</p> 	150	6 1/8	44	1 3/4	R32	1.0	31-R32-44-150-23
	160	6 1/4	44	1 3/4	R32	1.1	31-R32-44-160-23

# Bench drilling

# HL38



Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit</b>									
Spherical buttons									
	64	2 1/2	3x11	6x12	35°	3	-	1.8	1431-64HL38-311/612-45-31
	70	2 3/4	4x11	8x11	40°	2	-	1.9	1431-70HL38-411/811-45-31
	70	2 3/4	4x10, 1x10	8x11	30°	4	-	1.9	1432-70HL38-510/811-45-31
	70	2 3/4	3x10, 1x10	6x12	35°	3	-	1.8	1433-70HL38-410/612-45-31
	76	3	4x11	8x11	40°	2	-	2.4	1431-76HL38-411/811-45-31
	76	3	3x11, 1x11	6x12	35°	3	1	2.6	1433-76HL38-411/612-45-31
	76	3	4x11, 1x11	8x12	35°	4	-	2.6	1432-76HL38-511/812-45-31
	89	3 1/2	5x12	8x12	35°	2	-	3.3	1431-89HL38-512/812-45-31
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	3.3	1432-89HL38-513/813-45-31
	Parabolic buttons								
	64	2 1/2	3x11	6x12	35°	3	-	1.8	1431-64HL38-311/612-45-51
	70	2 3/4	4x11	8x11	40°	2	-	1.9	1431-70HL38-411/811-45-51
	70	2 3/4	4x10, 1x10	8x11	30°	4	-	1.9	1432-70HL38-510/811-45-51
	76	3	4x11	8x11	40°	2	-	2.4	1431-76HL38-411/811-45-51
	76	3	3x11, 1x11	6x13	35°	3	1	2.6	1433-76HL38-411/613-45-51
	76	3	4x11, 1x11	8x12	35°	4	-	2.6	1432-76HL38-511/812-45-51
	89	3 1/2	5x12	8x12	35°	2	-	3.3	1431-89HL38-512/812-45-51
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	3.3	1432-89HL38-513/813-45-51
<b>Retrac button bit</b>									
Spherical buttons									
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	2.2	1533-64HL38-410/611-45-31
	70	2 3/4	4x10, 1x10	8x11	35°	4	-	2.4	1532-70HL38-510/811-45-31
	76	3	4x11, 1x11	8x11	40°	4	-	3.3	1532-76HL38-511/811-45-31
	76	3	4x11, 1x11	8x12	35°	4	-	3.3	1532-76HL38-511/812-45-31
	89	3 1/2	5x12	8x12	35°	2	-	4.8	1531-89HL38-512/812-45-31
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	4.8	1532-89HL38-513/813-45-31
Parabolic buttons									
	64	2 1/2	3x10, 1x10	6x11	35°	3	-	2.2	1533-64HL38-410/611-45-51
	70	2 3/4	4x10, 1x10	8x11	35°	4	-	2.4	1532-70HL38-510/811-45-51
	76	3	4x11, 1x11	8x11	40°	4	-	3.3	1532-76HL38-511/811-45-51
	76	3	4x11, 1x11	8x12	35°	4	-	3.3	1532-76HL38-511/812-45-51
	89	3 1/2	5x12	8x12	35°	2	-	4.8	1531-89HL38-512/812-45-51
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	4.8	1532-89HL38-513/813-45-51

## Bench drilling

## HL38

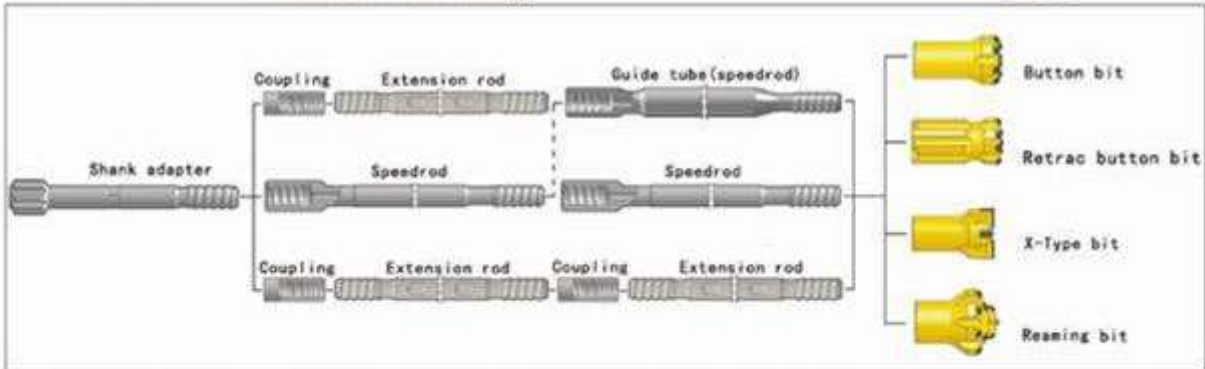
Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Extension rod HL38-Round39-HL38 Flushing hole 14.5mm. Wrench flat 32mm.	1220	4'	39	1 1/2	10.2	23R39-HL38-1220-23
	1525	5'	39	1 1/2	12.8	23R39-HL38-1525-23
	1830	6'	39	1 1/2	15.3	23R39-HL38-1830-23
	2435	8'	39	1 1/2	20.4	23R39-HL38-2435-23
	3050	10'	39	1 1/2	25.5	23R39-HL38-3050-23
	3660	12'	39	1 1/2	30.9	23R39-HL38-3660-23
	3965	13'	39	1 1/2	33.2	23R39-HL38-3965-23
	4270	14'	39	1 1/2	35.7	23R39-HL38-4270-23
	4880	16'	39	1 1/2	41.0	23R39-HL38-4880-23
	5530	18' 11/2"	39	1 1/2	46.3	23R39-HL38-5530-23
6095	20'	39	1 1/2	50.9	23R39-HL38-6095-23	
MF-rod HL38-Round39-HL38 Flushing hole 14.5mm.	915	3'	39	1 1/2	10.7	24R39-HL38/57-0915-23
	1220	4'	39	1 1/2	13.3	24R39-HL38/57-1220-23
	1525	5'	39	1 1/2	15.8	24R39-HL38/57-1525-23
	1830	6'	39	1 1/2	18.3	24R39-HL38/57-1830-23
	3050	10'	39	1 1/2	28.5	24R39-HL38/57-3050-23
	3660	12'	39	1 1/2	33.6	24R39-HL38/57-3660-23
	4270	14'	39	1 1/2	38.7	24R39-HL38/57-4270-23
	4880	16'	39	1 1/2	43.7	24R39-HL38/57-4880-23
	5530	18' 11/2"	39	1 1/2	49.2	24R39-HL38/57-5530-23
	6095	20'	39	1 1/2	53.9	24R39-HL38/57-6095-23
Hex. extension rod HL38-Hex32-HL38 Flushing hole 9.6mm.	1220	4'	32	1 1/4	8.6	23H32-HL38-1220-23
	1830	6'	32	1 1/4	12.6	23H32-HL38-1830-23
	2435	8'	32	1 1/4	16.6	23H32-HL38-2435-23
	3050	10'	32	1 1/4	20.8	23H32-HL38-3050-23
	3660	12'	32	1 1/4	24.9	23H32-HL38-3660-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
Coupling sleeves	170	6 3/4	55	2 5/32	HL38	1.9	31-HL38-55-170-23
	190	7 1/2	55	2 5/32	HL38	2.1	31-HL38-55-190-23



# Bench drilling

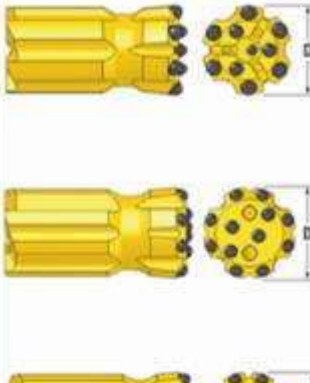
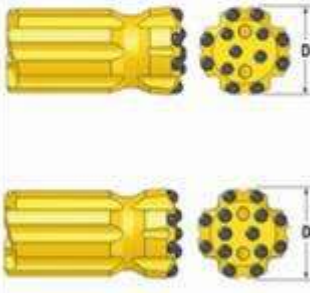

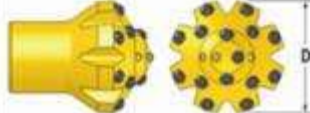
# T38



Drill bit	Diameter		No X button diameter			Flashing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Spherical buttons</b>									
	64	2 1/2	3X11	6X12	35°	3	-	1.8	1431-64T38-311/612-45-31
	64	2 1/2	4X10	8X10	40°	2	-	1.6	1431-64T38-410/810-45-31
	64	2 1/2	3X10, 1X10	6X11	35°	3	-	1.7	1433-64T38-410/611-45-31
	70	2 3/4	4X11	8X11	40°	2	-	1.9	1431-70T38-411/811-45-31
	70	2 3/4	4X10, 1X10	8X11	30°	4	-	1.9	1432-70T38-510/811-45-31
	70	2 3/4	3X10, 1X10	6X12	35°	3	-	1.8	1433-70T38-410/612-45-31
	76	3	4X11	8X11	40°	2	-	2.4	1431-76T38-411/811-45-31
	76	3	5X11	8X13	35°	2	1	2.4	1431-76T38-511/813-45-31
	76	3	3X11, 1X11	6X12	35°	3	1	2.6	1433-76T38-411/612-45-31
	76	3	4X11, 1X11	8X12	35°	4	-	2.6	1432-76T38-511/812-45-31
	76	3	4X11, 1X11	8X11	40°	4	-	2.6	1432-76T38-511/811-45-31
	89	3 1/2	4X13	8X13	40°	2	-	3.3	1431-89T38-413/813-45-31
89	3 1/2	5X13	8X13	35°	2	-	3.3	1431-89T38-513/813-45-31	
89	3 1/2	6X11	8X12	35°	2	-	3.3	1431-89T38-611/812-45-31	
89	3 1/2	3X11, 2X11	6X13	35°	3	1	3.3	1433-89T38-511/613-45-31	
89	3 1/2	4X11, 1X11	8X13	35°	4	-	3.3	1433-89T38-511/813-45-31	
89	3 1/2	4X13, 1X13	8X13	35°	4	-	3.3	1432-89T38-513/813-45-31	
<b>Parabolic buttons</b>									
	64	2 1/2	3X11	6X12	35°	3	-	1.8	1431-64T38-311/612-45-51
	64	2 1/2	4X10	8X10	40°	2	-	1.6	1431-64T38-410/810-45-51
	64	2 1/2	3X10, 1X10	6X11	35°	3	-	1.7	1433-64T38-410/611-45-51
	70	2 3/4	4X11	8X11	40°	2	-	1.9	1431-70T38-411/811-45-51
	70	2 3/4	3X10, 1X10	6X12	35°	3	-	1.8	1433-70T38-410/612-45-51
	76	3	4X11	8X11	40°	2	-	2.4	1431-76T38-411/811-45-51
	76	3	5X11	8X13	35°	2	1	2.4	1431-76T38-511/813-45-51
	76	3	3X11, 1X11	6X13	35°	3	1	2.6	1433-76T38-411/613-45-51
	76	3	4X11, 1X11	8X12	35°	4	-	2.6	1432-76T38-511/812-45-51
	76	3	4X11, 1X11	8X11	40°	4	-	2.6	1432-76T38-511/811-45-51
	89	3 1/2	5X13	8X13	35°	2	-	3.3	1431-89T38-513/813-45-51
	89	3 1/2	6X11	8X12	35°	2	-	3.3	1431-89T38-611/812-45-51
89	3 1/2	3X11, 2X11	6X13	35°	3	1	3.3	1433-89T38-511/613-45-51	
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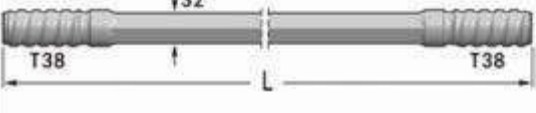
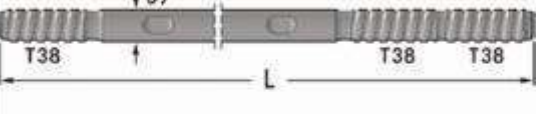
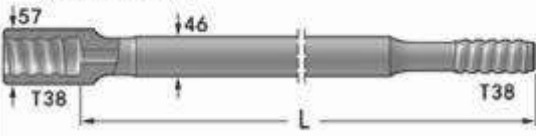
# Bench drilling

# T38

Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.	
	mm	inch	Front	Gauge	Angle	Front	Side			
Spherical buttons										
<b>Retrac button bit</b> 	64	2 1/2	4X10	8X10	30°	2	-	2.2	1531-64T38-410/810-45-31	
	64	2 1/2	3X10, 1X10	6X11	35°	3	-	2.2	1533-64T38-410/811-45-31	
	70	2 3/4	4X11	8X11	40°	2	-	2.4	1531-70T38-411/811-45-31	
	70	2 3/4	3X10, 1X10	6X13	35°	3	-	2.4	1533-70T38-410/813-45-31	
	70	2 3/4	4X10, 1X10	8X11	35°	4	-	2.4	1632-70T38-510/811-45-31	
	76	3	4X11	8X11	40°	2	-	3.3	1531-76T38-411/811-45-31	
	76	3	4X11, 1X11	8X11	35°	4	-	3.3	1632-76T38-511/811-45-31	
	76	3	4X11, 1X11	8X12	35°	4	-	3.3	1632-76T38-511/812-45-31	
	89	3 1/2	4X13	8X13	40°	2	-	4.8	1531-89T38-413/813-45-31	
	89	3 1/2	5X13	8X13	35°	2	-	4.8	1531-89T38-513/813-45-31	
	89	3 1/2	6X11	8X12	35°	2	-	4.8	1531-89T38-611/812-45-31	
	89	3 1/2	4X11, 1X11	8X13	35°	4	-	4.8	1533-89T38-511/813-45-31	
89	3 1/2	4X13, 1X13	8X13	35°	4	-	4.8	1632-89T38-513/813-45-31		
Parabolic buttons										
	64	2 1/2	4X10	8X10	30°	2	-	2.2	1531-64T38-410/810-45-51	
	64	2 1/2	3X10, 1X10	6X11	35°	3	-	2.2	1533-64T38-410/811-45-51	
	70	2 3/4	4X11	8X11	40°	2	-	2.4	1531-70T38-411/811-45-51	
	70	2 3/4	3X10, 1X10	6X13	35°	3	-	2.4	1533-70T38-410/813-45-51	
	70	2 3/4	4X10, 1X10	8X11	35°	4	-	2.4	1632-70T38-510/811-45-51	
	76	3	4X11	8X11	40°	2	-	3.3	1531-76T38-411/811-45-51	
	76	3	4X11, 1X11	8X11	35°	4	-	3.3	1632-76T38-511/811-45-51	
	76	3	4X11, 1X11	8X12	35°	4	-	3.3	1632-76T38-511/812-45-51	
	89	3 1/2	4X13	8X13	40°	2	-	4.8	1531-89T38-413/813-45-51	
	89	3 1/2	5X13	8X13	35°	2	-	4.8	1531-89T38-513/813-45-51	
	89	3 1/2	6X11	8X12	35°	2	-	4.8	1531-89T38-611/812-45-51	
	89	3 1/2	4X11, 1X11	8X13	35°	4	-	4.8	1533-89T38-511/813-45-51	
89	3 1/2	4X13, 1X13	8X13	35°	4	-	4.8	1632-89T38-513/813-45-51		
<b>X-type bit</b> 	64	2 1/2	25X13		-	1	2	1.9	1321-64T38-25/13-42-23	
	76	3	25X13		-	1	2	2.5	1321-76T38-25/13-42-23	
	89	3 1/2	25X13		-	1	2	2.8	1321-89T38-25/13-42-23	
Spherical buttons										
<b>Done bit for reaming</b> 	102	4	1X13	16X13	35°	2	2	3.8	1441-102T38-113/1613-45-31	
	127	5	1X13	18X13	35°	1	3	5.2	1441-127T38-113/1813-45-31	
	Parabolic buttons									
	102	4	1X13	16X13	35°	2	2	3.8	1441-102T38-113/1613-45-51	
127	5	1X13	18X13	35°	1	3	5.2	1441-127T38-113/1813-45-51		

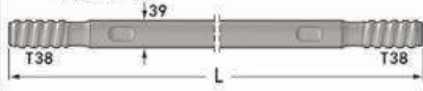
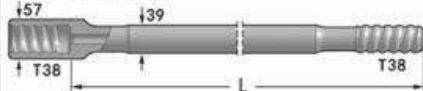



## Bench drilling

## T38

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
<p>Extension rod T38-Round39-T38 Flushing hole 14.5mm. Wrench flat 32mm.</p> 	1220	4'	39	1 1/2	10.2	23R39-T38-1220-23
	1525	5'	39	1 1/2	12.6	23R39-T38-1525-23
	1830	6'	39	1 1/2	15.3	23R39-T38-1830-23
	2435	8'	39	1 1/2	20.4	23R39-T38-2435-23
	3050	10'	39	1 1/2	25.5	23R39-T38-3050-23
	3660	12'	39	1 1/2	30.9	23R39-T38-3660-23
	3965	13'	39	1 1/2	33.2	23R39-T38-3965-23
	4270	14'	39	1 1/2	35.7	23R39-T38-4270-23
	4880	16'	39	1 1/2	41.0	23R39-T38-4880-23
	5530	18' 11/2"	39	1 1/2	46.3	23R39-T38-5530-23
6095	20'	39	1 1/2	50.9	23R39-T38-6095-23	
<p>MF-rod T38-Round39-T38 Flushing hole 14.5mm.</p> 	915	3'	39	1 1/2	10.7	24R39-T38/57-0915-23
	1220	4'	39	1 1/2	13.3	24R39-T38/57-1220-23
	1525	5'	39	1 1/2	15.8	24R39-T38/57-1525-23
	1830	6'	39	1 1/2	18.3	24R39-T38/57-1830-23
	3050	10'	39	1 1/2	28.5	24R39-T38/57-3050-23
	3660	12'	39	1 1/2	33.6	24R39-T38/57-3660-23
	4270	14'	39	1 1/2	38.7	24R39-T38/57-4270-23
	4880	16'	39	1 1/2	43.7	24R39-T38/57-4880-23
	5530	18' 11/2"	39	1 1/2	49.2	24R39-T38/57-5530-23
	6095	20'	39	1 1/2	53.9	24R39-T38/57-6095-23
<p>Hex. extension rod T38-Hex32-T38 Flushing hole 9.6mm.</p> 	1220	4'	32	1 1/4	8.6	23H32-T38-1220-23
	1830	6'	32	1 1/4	12.6	23H32-T38-1830-23
	2435	8'	32	1 1/4	16.6	23H32-T38-2435-23
	3050	10'	32	1 1/4	20.8	23H32-T38-3050-23
	3660	12'	32	1 1/4	24.9	23H32-T38-3660-23
<p>Double thread rod T38-Round39-T38 Flushing hole 14.5mm. Wrench flat 32mm.</p> 	3050	10'	46	1 3/4	25.7	23R39-T38/2T38-3050-23
	3660	12'	46	1 3/4	30.9	23R39-T38/2T38-3660-23
<p>Guide speed rod T38-Round46-T38 Flushing hole 17mm.</p> 	1830	6'	46	1 3/4	23.5	24R46-T38/57-1830-23
	3050	10'	46	1 3/4	37.2	24R46-T38/57-3050-23
	3660	12'	46	1 3/4	44.0	24R46-T38/57-3660-23
	4270	14'	46	1 3/4	50.9	24R46-T38/57-4270-23
	4880	16'	46	1 3/4	57.7	24R46-T38/57-4880-23
	5530	18' 11/2"	46	1 3/4	65.0	24R46-T38/57-5530-23
	6095	20'	46	1 3/4	71.3	24R46-T38/57-6095-23

## Bench drilling


## T38

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	Inch		
<b>Extension rod T38-Round39-T38</b> Flushing hole 14.5mm. Wrench Flat 32mm. 	1220	4'	39	1 1/2	10.2	23R39-T38-1220-23
	1525	5'	39	1 1/2	12.8	23R39-T38-1525-23
	1830	6'	39	1 1/2	15.3	23R39-T38-1830-23
	2435	8'	39	1 1/2	20.4	23R39-T38-2435-23
	3050	10'	39	1 1/2	25.5	23R39-T38-3050-23
	3660	12'	39	1 1/2	30.9	23R39-T38-3660-23
	3965	13'	39	1 1/2	33.2	23R39-T38-3965-23
	4270	14'	39	1 1/2	35.7	23R39-T38-4270-23
	4880	16'	39	1 1/2	41.0	23R39-T38-4880-23
	5530	18' 11/2"	39	1 1/2	46.3	23R39-T38-5530-23
	6095	20'	39	1 1/2	50.9	23R39-T38-6095-23
<b>MF-rod T38-Round39-T38</b> Flushing hole 14.5mm. 	915	3'	39	1 1/2	10.7	24R39-T38/57-0915-23
	1220	4'	39	1 1/2	13.3	24R39-T38/57-1220-23
	1525	5'	39	1 1/2	15.8	24R39-T38/57-1525-23
	1830	6'	39	1 1/2	18.3	24R39-T38/57-1830-23
	3050	10'	39	1 1/2	28.5	24R39-T38/57-3050-23
	3660	12'	39	1 1/2	33.6	24R39-T38/57-3660-23
	4270	14'	39	1 1/2	38.7	24R39-T38/57-4270-23
	4880	16'	39	1 1/2	43.7	24R39-T38/57-4880-23
	5530	18' 11/2"	39	1 1/2	49.2	24R39-T38/57-5530-23
	6095	20'	39	1 1/2	53.9	24R39-T38/57-6095-23
<b>Hex. extension rod T38-Hex32-T38</b> Flushing hole 9.6mm. 	1220	4'	32	1 1/4	8.6	23H32-T38-1220-23
	1830	6'	32	1 1/4	12.6	23H32-T38-1830-23
	2435	8'	32	1 1/4	16.6	23H32-T38-2435-23
	3050	10'	32	1 1/4	20.8	23H32-T38-3050-23
	3660	12'	32	1 1/4	24.9	23H32-T38-3660-23
<b>Double thread rod T38-Round39-T38</b> Flushing hole 14.5mm. Wrench flat 32mm. 	3050	10'	46	1 3/4	25.7	23R39-T38/2138-3050-23
	3660	12'	46	1 3/4	30.9	23R39-T38/2138-3660-23
<b>Guide speedrod T38-Round46-T38</b> Flushing hole 17mm. 	1830	6'	46	1 3/4	23.5	24R46-T38/57-1830-23
	3050	10'	46	1 3/4	37.2	24R46-T38/57-3050-23
	3660	12'	46	1 3/4	44.0	24R46-T38/57-3660-23
	4270	14'	46	1 3/4	50.9	24R46-T38/57-4270-23
	4880	16'	46	1 3/4	57.7	24R46-T38/57-4880-23
	5530	18' 11/2"	46	1 3/4	65.0	24R46-T38/57-5530-23
	6095	20'	46	1 3/4	71.3	24R46-T38/57-6095-23

## Bench drilling

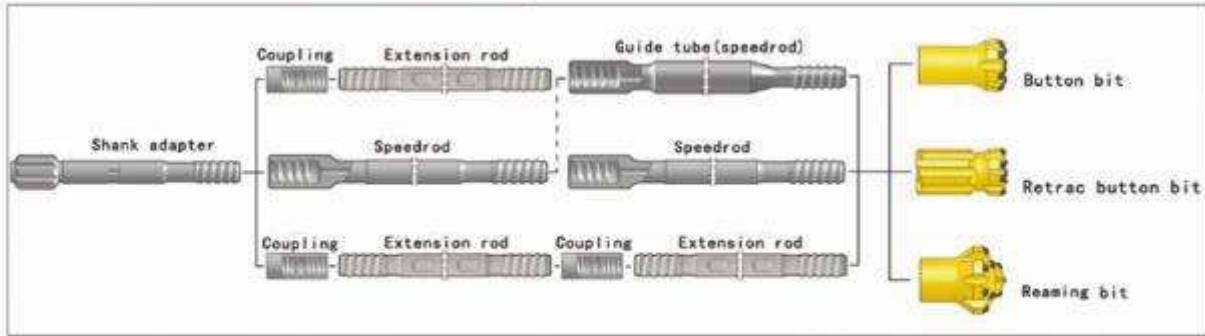
## T38

Guide tube	Length		Diameter		Weight approx kg	Product NO.
	mm	inch	mm	inch		
<b>Guide tube</b> 64-76mm - D64 76-89mm D56 for bits from 64-76mm and D64 for bits from 76-89mm. 	1220	4'	56	2 1/8	12.6	24G56-T38/56-1220-23
	1525	5'	56	2 1/8	14	24G56-T38/56-1525-23
	1830	6'	56	2 1/8	17.4	24G56-T38/56-1830-23
	3050	10'	56	2 1/8	28.3	24G56-T38/56-3050-23
	3660	12'	56	2 1/8	32.8	24G56-T38/56-3660-23
	4920	16' 2"	56	2 1/8	47.9	24G56-T38/56-4920-23
	3660	12'	64	2 1/2	51	24G64-T38/64-3660-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
<b>Coupling sleeves</b> 	190	7 1/2	55	2 5/32	T38	2.1	31-T38-55-190-23

# Bench drilling

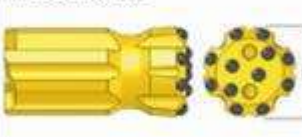
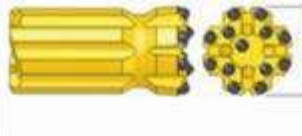
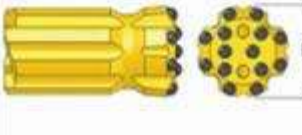

# T45



Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.	
	mm	inch	Front	Gouge	Angle	Front	Side			
<b>Spherical buttons</b>										
	70	2 3/4	4x11	8x11	40°	2	-	2.3	1431-70T45-411/811-45-31	
	70	2 3/4	3x11, 1x9	6x11	35°	3	-	2.2	1433-70T45-411/611-45-31	
	70	2 3/4	4x10, 1x10	8x11	35°	4	-	2.2	1432-70T45-510/811-45-31	
	76	3	4x11	8x11	40°	2	-	2.6	1431-76T45-411/811-45-31	
	76	3	5x11	8x12	35°	2	1	2.6	1431-76T45-511/812-45-31	
	76	3	3x11, 1x11	6x13	35°	3	-	2.4	1433-76T45-411/613-45-31	
	76	3	4x11, 1x11	8x12	35°	4	-	2.6	1432-76T45-511/812-45-31	
	89	3 1/2	4x13	8x13	40°	2	-	4.6	1431-89T45-413/813-45-31	
	89	3 1/2	6x11	8x12	35°	2	-	4.6	1431-89T45-611/812-45-31	
	89	3 1/2	3x11, 2x11	6x13	35°	3	1	4.1	1433-89T45-511/613-45-31	
	89	3 1/2	4x11, 1x11	8x12	35°	4	-	4.6	1433-89T45-511/812-45-31	
		<b>Parabolic buttons</b>								
70		2 3/4	3x11, 1x9	6x11	35°	3	-	2.2	1433-70T45-411/611-45-51	
70		2 3/4	4x10, 1x10	8x11	35°	4	-	2.2	1432-70T45-510/811-45-51	
76		3	4x11	8x11	40°	2	-	2.6	1431-76T45-411/811-45-51	
76		3	5x11	8x12	35°	2	1	2.6	1431-76T45-511/812-45-51	
76		3	3x11, 1x11	6x13	35°	3	1	2.4	1433-76T45-411/613-45-51	
76		3	4x11, 1x11	8x11	35°	4	-	2.6	1432-76T45-511/811-45-51	
76		3	4x11, 1x11	8x12	35°	4	-	2.6	1432-76T45-511/812-45-51	
89	3 1/2	4x13	8x13	40°	2	-	4.6	1431-89T45-413/813-45-51		
89	3 1/2	6x11	8x12	35°	2	-	4.6	1431-89T45-611/812-45-51		
89	3 1/2	3x11, 2x11	6x13	35°	3	1	4.1	1433-89T45-511/613-45-51		
89	3 1/2	4x11, 1x11	8x12	35°	4	-	4.6	1433-89T45-511/812-45-51		
89	3 1/2	4x13, 1x13	8x13	35°	4	-	4.6	1432-89T45-513/813-45-51		

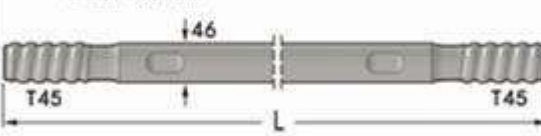
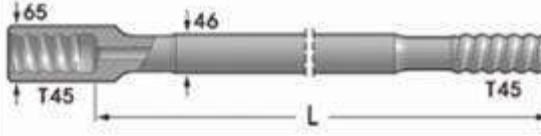
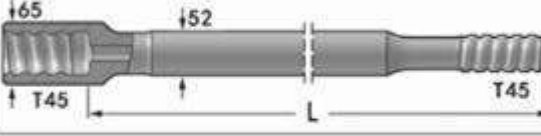
# Bench drilling

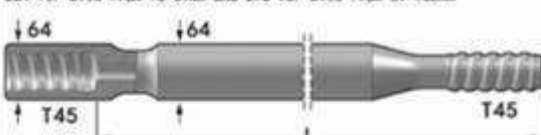
# T45

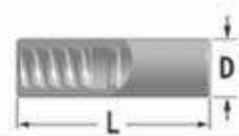
Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx. kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Spherical buttons</b>									
<b>Retrac button bit</b> 	70	2 3/4	4X11	8X11	40°	2	-	2.5	1531-70145-411/811-45-31
	70	2 3/4	3X11, 1X9	6X11	35°	3	-	2.5	1533-70145-411/611-45-31
	70	2 3/4	4X10, 1X10	8X11	35°	4	-	2.5	1632-70145-510/811-45-31
	76	3	4X11	8X11	40°	2	-	3.2	1531-76145-411/811-45-31
	76	3	5X11	8X12	35°	2	1	3.2	1531-76145-511/812-45-31
	76	3	3X11, 1X11	6X13	35°	3	-	3.2	1533-76145-411/613-45-31
	76	3	4X11, 1X11	8X11	35°	4	-	3.2	1632-76145-511/811-45-31
	76	3	4X11, 1X11	8X12	35°	4	-	3.2	1632-76145-511/812-45-31
	89	3 1/2	4X13	8X13	40°	2	-	5.4	1531-89145-413/813-45-31
	89	3 1/2	6X11	8X12	35°	2	-	6.4	1631-89145-611/812-45-31
	89	3 1/2	3X11, 2X11	6X13	35°	3	1	5.4	1533-89145-511/613-45-31
	89	3 1/2	4X11, 1X11	8X12	35°	4	-	5.4	1533-89145-511/812-45-31
	89	3 1/2	4X13, 1X13	8X13	35°	4	-	5.4	1632-89145-513/813-45-31
	102	4	5X14	8X14	40°	2	-	6.8	1531-102145-514/814-45-31
	102	4	6X13	8X16	40°	2	1	6.8	1531-102145-613/816-45-31
	102	4	3X13, 2X13	6X14	35°	3	1	6.8	1533-102145-513/614-45-31
	102	4	4X13, 1X13	8X14	35°	4	-	6.8	1533-102145-513/814-45-31
	102	4	4X13, 2X13	8X13	35°	4	1	6.8	1533-102145-613/813-45-31
<b>Parabolic buttons</b>									
	70	2 3/4	3X11, 1X9	6X11	35°	3	-	2.5	1533-70145-411/611-45-51
	70	2 3/4	4X10, 1X10	8X11	35°	4	-	2.5	1632-70145-510/811-45-51
	76	3	4X11	8X11	40°	2	-	3.2	1531-76145-411/811-45-51
	76	3	5X11	8X12	35°	2	1	3.2	1531-76145-511/812-45-51
	76	3	3X11, 1X11	6X13	35°	3	1	3.2	1533-76145-411/613-45-51
	76	3	4X11, 1X11	8X11	35°	4	-	3.2	1632-76145-511/811-45-51
	76	3	4X11, 1X11	8X12	35°	4	-	3.2	1632-76145-511/812-45-51
	89	3 1/2	4X13	8X13	40°	2	-	5.4	1531-89145-413/813-45-51
	89	3 1/2	6X11	8X12	35°	2	-	5.4	1531-89145-611/812-45-51
	89	3 1/2	3X11, 2X11	6X13	35°	3	1	5.4	1533-89145-511/613-45-51
	89	3 1/2	4X11, 1X11	8X12	35°	4	-	5.4	1533-89145-511/812-45-51
	89	3 1/2	4X13, 1X13	8X13	35°	4	-	5.4	1632-89145-513/813-45-51
<b>Spherical buttons</b>									
<b>Dome bit for reaming</b> 	127	5	1X13	18X13	35°	3	1	6.0	1441-127145-113/1813-45-31
	152	6	2X14	18X14	35°	3	1	10.6	1441-152145-214/1814-45-31
<b>Parabolic buttons</b>									
	127	5	1X13	18X13	35°	3	1	6.0	1441-127145-113/1813-45-51
	152	6	2X14	18X14	35°	3	1	10.6	1441-152145-214/1814-45-51

## Bench drilling

## T45

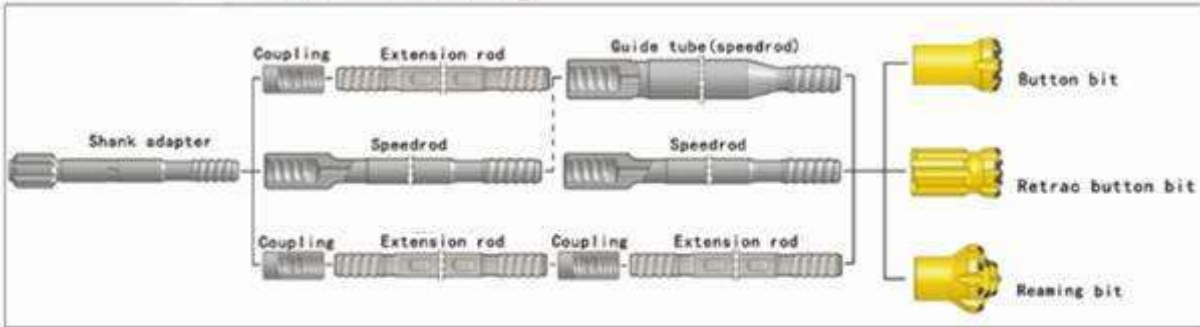
Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
	<p>Extension rod T45-Round46-T45 Flushing hole 17mm. Branch flat 38mm.</p> 					
1830	6'	46	1 3/4	21.6	23R46-T45-1830-23	
2435	8'	46	1 3/4	28.3	23R46-T45-2435-23	
3050	10'	46	1 3/4	35.2	23R46-T45-3050-23	
3660	12'	46	1 3/4	42.1	23R46-T45-3660-23	
4270	14'	46	1 3/4	48.9	23R46-T45-4270-23	
5530	18'	46	1 3/4	63.0	23R46-T45-5530-23	
6095	20'	46	1 3/4	69.3	23R46-T45-6095-23	
<p>MF-rod T45-Round46-T45 Flushing hole 17mm.</p> 						
1525	5'	46	1 3/4	21.2	24R46-T45/65-1525-23	
1830	6'	46	1 3/4	24.6	24R46-T45/65-1830-23	
3050	10'	46	1 3/4	38.2	24R46-T45/65-3050-23	
3660	12'	46	1 3/4	45.0	24R46-T45/65-3660-23	
4270	14'	46	1 3/4	51.9	24R46-T45/65-4270-23	
5530	18'	46	1 3/4	66.0	24R46-T45/65-5530-23	
6095	20'	46	1 3/4	72.3	24R46-T45/65-6095-23	
<p>Guide speedrod T45-Round52-T45 Flushing hole 21.5mm.</p> 						
3050	10'	52	2	46.6	24R52-T45/65-3050-23	
3660	12'	52	2	55.8	24R52-T45/65-3660-23	
4270	14'	52	2	63.8	24R52-T45/65-4270-23	
5530	18'	52	2	81.5	24R52-T45/65-5530-23	
6095	20'	52	2	89.4	24R52-T45/65-6095-23	

Guide tube	Length		Diameter		Weight approx kg	Product NO.
	mm	inch	mm	inch		
	<p>Guide tube D64 for bits from 76-89mm and D76 for bits from 89-102mm</p> 					
1220	4'	64	2 1/8	12.6	24G64-T45/64-1220-23	
1525	5'	64	2 1/8	14.0	24G64-T45/64-1525-23	
1830	6'	64	2 1/8	17.4	24G64-T45/64-1830-23	
3050	10'	64	2 1/8	28.3	24G64-T45/64-3050-23	
3660	12'	64	2 1/8	32.8	24G64-T45/64-3660-23	
1830	6'	76	3	40.0	24G76-T45/76-1830-23	
3660	12'	76	3	77.8	24G76-T45/76-3660-23	

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
	<p>Coupling sleeves</p> 						
210	8 1/4	63	2 33/64	T45	3.0	31-T45-63-210-23	
210	8 1/4	66	2 37/64	T45	3.3	31-T45-66-210-23	

# Bench drilling

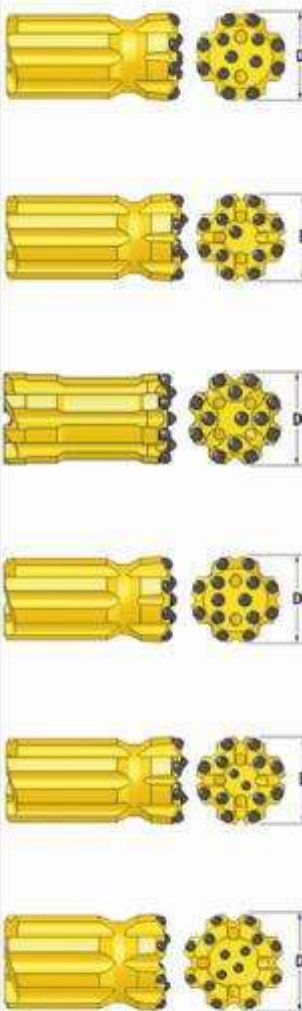
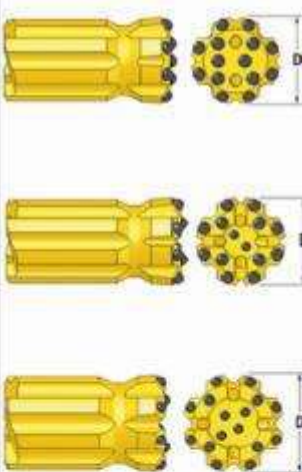


# T51



Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Spherical buttons</b>									
	89	3 1/2	4X13	8X13	40°	2	-	4.9	1431-89T51-413/813-45-31
	89	3 1/2	5X13	8X13	35°	2	1	4.9	1431-89T51-513/813-45-31
	89	3 1/2	3X11, 2X11	6X13	35°	4	-	4.9	1433-89T51-511/613-45-31
	89	3 1/2	4X11, 1X11	8X13	35°	4	-	4.9	1433-89T51-511/813-45-31
	89	3 1/2	4X13, 1X13	8X13	35°	4	-	4.9	1432-89T51-513/813-45-31
	102	4	4X14	8X14	40°	2	-	5.8	1431-102T51-414/814-45-31
	102	4	6X13	8X16	35°	2	1	5.8	1431-102T51-613/816-45-31
	102	4	3X13, 2X13	6X14	35°	3	1	5.2	1433-102T51-513/614-45-31
	102	4	4X13, 1X13	8X14	35°	4	-	5.8	1433-102T51-513/814-45-31
	102	4	4X13, 2X13	8X13	35°	4	1	5.8	1433-102T51-613/813-45-31
	115	4 1/2	6X14	8X14	35°	2	-	6.8	1431-115T51-614/814-45-31
	115	4 1/2	6X14	8X16	35°	2	-	6.8	1431-115T51-614/816-45-31
	115	4 1/2	4X13, 2X13	8X14	35°	4	-	6.8	1433-115T51-613/814-45-31
	115	4 1/2	4X13, 3X13	8X14	35°	4	-	6.8	1433-115T51-713/814-45-31
	115	4 1/2	4X14, 2X14	8X16	35°	4	-	6.8	1433-115T51-614/816-45-31
	127	5	8X14	8X16	35°	2	1	7.5	1431-127T51-814/816-45-31
	127	5	4X16, 2X13	8X16	35°	4	-	7.5	1433-127T51-616/816-45-31
	127	5	4X14, 3X14	8X14	35°	4	-	7.5	1433-127T51-714/814-45-31
<b>Parabolic buttons</b>									
	89	3 1/2	5X13	8X13	35°	2	1	4.9	1431-89T51-513/813-45-51
	89	3 1/2	3X11, 2X11	6X13	35°	4	-	4.9	1433-89T51-511/613-45-51
	89	3 1/2	4X11, 1X11	8X13	35°	4	-	4.9	1433-89T51-511/813-45-51
	89	3 1/2	4X13, 1X13	8X13	35°	4	-	4.9	1432-89T51-513/813-45-51
	102	4	4X14	8X14	40°	2	-	5.8	1431-102T51-414/814-45-51
	102	4	6X13	8X16	35°	2	1	5.8	1431-102T51-613/816-45-51
	102	4	3X13, 2X13	6X14	35°	3	1	5.2	1433-102T51-513/614-45-51
	102	4	4X13, 1X13	8X14	35°	4	-	5.8	1433-102T51-513/814-45-51
	102	4	4X13, 2X13	8X13	35°	4	1	5.8	1433-102T51-613/813-45-51
	115	4 1/2	6X14	8X16	35°	2	-	6.8	1431-115T51-614/816-45-51
	115	4 1/2	4X13, 2X13	8X14	35°	4	-	6.8	1433-115T51-613/814-45-51
	115	4 1/2	4X13, 3X13	8X14	35°	4	-	6.8	1433-115T51-713/814-45-51
115	4 1/2	4X14, 2X14	8X16	35°	4	-	6.8	1433-115T51-614/816-45-51	

# Bench drilling

# T51

Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Retrac button bit</b> 	<b>Spherical buttons</b>								
	89	3 1/2	4×13	8×13	40°	2	-	5.3	1531-89T51-413/813-45-31
	89	3 1/2	5×13	8×13	35°	2	1	5.3	1531-89T51-513/813-45-31
	89	3 1/2	3×11, 2×11	6×13	35°	4	-	5.3	1533-89T51-511/613-45-31
	89	3 1/2	4×11, 1×11	8×13	35°	4	-	5.3	1533-89T51-511/813-45-31
	89	3 1/2	4×13, 1×13	8×13	35°	4	-	5.3	1632-89T51-513/813-45-31
	102	4	4×14	8×14	40°	2	-	7.3	1531-102T51-414/814-45-31
	102	4	6×13	8×16	35°	2	1	7.3	1531-102T51-613/816-45-31
	102	4	4×13, 1×13	8×14	35°	4	-	7.3	1533-102T51-513/814-45-31
	102	4	4×13, 2×13	8×13	35°	4	1	7.3	1533-102T51-613/813-45-31
	102	4	4×13, 1×13	8×14	35°	4	1	7.3	1533-102T51-513/814-45-31
	115	4 1/2	6×14	8×14	35°	2	-	9.8	1531-115T51-614/814-45-31
	115	4 1/2	6×14	8×16	35°	2	-	9.8	1531-115T51-614/816-45-31
	115	4 1/2	4×13, 2×13	8×14	35°	4	-	9.8	1533-115T51-613/814-45-31
	115	4 1/2	4×13, 3×13	8×14	35°	4	-	9.8	1533-115T51-713/814-45-31
	115	4 1/2	4×14, 2×14	8×16	35°	4	-	9.8	1533-115T51-614/816-45-31
	127	5	8×14	8×16	35°	2	1	12.0	1531-127T51-814/816-45-31
	127	5	4×16, 2×13	8×16	35°	4	-	12.0	1533-127T51-616/816-45-31
	127	5	4×14, 3×14	8×14	35°	4	-	12.0	1533-127T51-714/814-45-31
		<b>Parabolic buttons</b>							
89		3 1/2	5×13	8×13	35°	2	1	5.3	1531-89T51-513/813-45-51
89		3 1/2	3×11, 2×11	6×13	35°	4	-	5.3	1533-89T51-511/613-45-51
89		3 1/2	4×11, 1×11	8×13	35°	4	-	5.3	1533-89T51-511/813-45-51
89		3 1/2	4×13, 1×13	8×13	35°	4	-	5.3	1632-89T51-513/813-45-51
102		4	4×14	8×14	40°	2	-	7.3	1531-102T51-414/814-45-51
102		4	6×13	8×16	35°	2	1	7.3	1531-102T51-613/816-45-51
102		4	4×13, 1×13	8×14	35°	4	-	7.3	1533-102T51-513/814-45-51
102		4	4×13, 2×13	8×13	35°	4	1	7.3	1533-102T51-613/813-45-51
102		4	4×13, 1×13	8×14	35°	4	1	7.3	1533-102T51-513/814-45-51
115		4 1/2	6×14	8×16	35°	2	-	9.8	1531-115T51-614/816-45-51
115		4 1/2	4×13, 2×13	8×14	35°	4	-	9.8	1533-115T51-613/814-45-51
115	4 1/2	4×13, 3×13	8×14	35°	4	-	9.8	1533-115T51-713/814-45-51	
115	4 1/2	4×14, 2×14	8×16	35°	4	-	9.8	1533-115T51-614/816-45-51	
<b>Dome bit for reaming</b> 	<b>Spherical buttons</b>								
	152	6	2×14	18×14	35°	3	1	10.6	1441-152T51-214/1814-45-31
	<b>Parabolic buttons</b>								
	152	6	2×14	18×14	35°	3	1	10.6	1441-152T51-214/1814-45-51

## Bench drilling

## T51

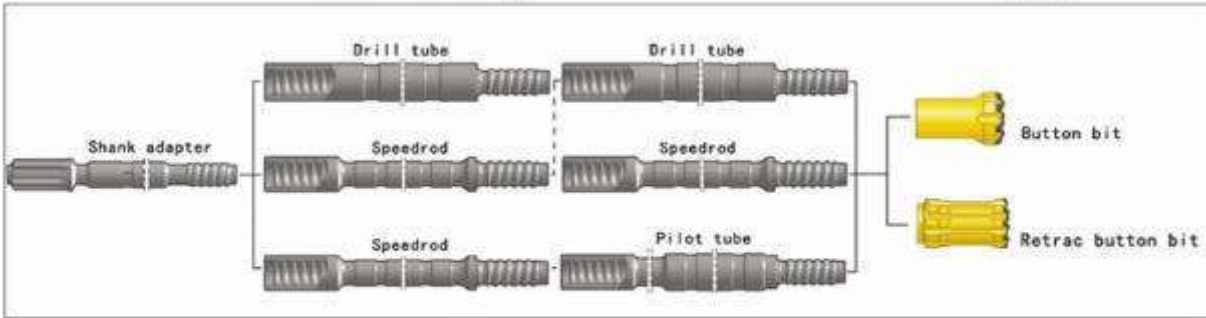
Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
<b>Extension rod T51-Round52-T51</b> Flushing hole 21.5mm. Wrench flat 45mm.	3050	10'	52	2	45.3	23R52-T51-3050-23
	3660	12'	52	2	54.1	23R52-T51-3660-23
	4270	14'	52	2	63.0	23R52-T51-4270-23
	4880	16'	52	2	71.8	23R52-T51-4880-23
	5530	18'	52	2	81.2	23R52-T51-5530-23
	6095	20'	52	2	89.4	23R52-T51-6095-23
<b>MF-rod T51-Round52-T51</b> Flushing hole 21.5mm.	1525	5'	52	2	26.2	24R52-T51/72-1525-23
	1830	6'	52	2	30.6	24R52-T51/72-1830-23
	3050	10'	52	2	48.3	24R52-T51/72-3050-23
	3660	12'	52	2	57.1	24R52-T51/72-3660-23
	4270	14'	52	2	66.0	24R52-T51/72-4270-23
	4880	16'	52	2	74.8	24R52-T51/72-4880-23
	5530	18'	52	2	84.2	24R52-T51/72-5530-23
	6095	20'	52	2	92.4	24R52-T51/72-6095-23



Guide tube	Length		Diameter		Weight approx kg	Product NO.
	mm	inch	mm	inch		
D76 for bits from 89-102mm and D87 for bits from 102-127mm	1830	6'	76	3	42.0	24G76-T51/76-1830-23
	3660	12'	76	3	81.0	24G76-T51/76-3660-23
	3660	12'	87	3 1/2	86.0	24G87-T51/87-3660-23

Coupling	Length		Diameter		Thread	Weight approx kg	Product NO.
	mm	inch	mm	inch			
Coupling sleeves	225	8 7/8	71	2 51/64	T51	4.6	31-T51-71-225-23
	225	8 7/8	76	3	T51	4.8	31-T51-76-225-23
	235	9 1/4	72	2 7/8	T51	4.7	31-T51-72-235-23
	235	9 1/4	77	3 1/32	T51	4.9	31-T51-77-235-23

# Bench drilling

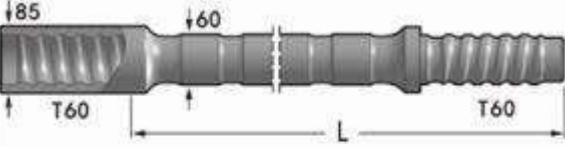
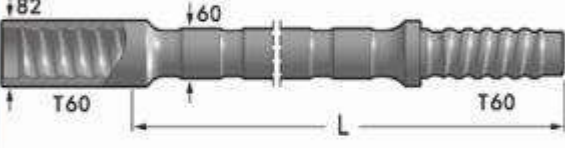
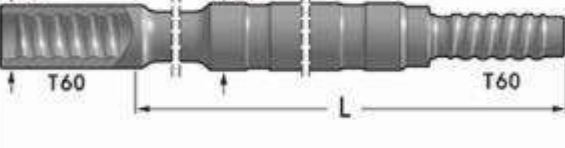

# T60



Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Button bit</b> 	Spherical buttons								
	92	3 5/8	4 X 13, 1 X 13	8 X 13	35°	4	-	5.3	1432-92T60-513/813-45-31
	96	3 3/4	4 X 13, 1 X 13	8 X 14	35°	4	-	5.6	1432-96T60-513/814-45-31
	102	4	9 X 11	9 X 13	35°	3	-	6.0	1431-102T60-911/913-45-31
	115	4 1/2	10 X 12	9 X 14	35°	3	-	6.8	1431-115T60-1012/914-45-31
	127	5	10 X 13	9 X 14	35°	3	-	7.5	1431-127T60-1013/914-45-31
	140	5 1/2	10 X 14	9 X 16	35°	3	-	9.0	1431-140T60-1014/916-45-31
	152	6	12 X 14	9 X 16	35°	3	-	10.6	1431-152T60-1214/916-45-31
	Parabolic buttons								
	92	3 5/8	4 X 13, 1 X 13	8 X 13	35°	4	-	5.3	1432-92T60-513/813-45-51
	96	3 3/4	4 X 13, 1 X 13	8 X 14	35°	4	-	5.6	1432-96T60-513/814-45-51
	102	4	9 X 11	9 X 13	35°	3	-	6.0	1431-102T60-911/913-45-51
	115	4 1/2	10 X 12	9 X 14	35°	3	-	6.8	1431-115T60-1012/914-45-51
	127	5	10 X 13	9 X 14	35°	3	-	7.5	1431-127T60-1013/914-45-51
140	5 1/2	10 X 14	9 X 16	35°	3	-	9.0	1431-140T60-1014/916-45-51	
152	6	12 X 14	9 X 16	35°	3	-	10.6	1431-152T60-1214/916-45-51	
<b>Retrac button bit</b> 	Spherical buttons								
	92	3 5/8	9 X 12	9 X 12	40°	2	-	5.4	1531-92T60-912/912-45-31
	96	3 3/4	9 X 12	9 X 12	40°	2	-	6.3	1531-96T60-912/912-45-31
	102	4	10 X 12	9 X 13	40°	2	-	7.3	1531-102T60-1012/913-45-31
	115	4 1/2	10 X 12	9 X 14	35°	3	-	9.8	1531-115T60-1012/914-45-31
	118	4 5/8	6 X 13	9 X 16	35°	3	-	10.0	1531-118T60-613/916-45-31
	127	5	10 X 13	9 X 14	35°	3	-	12.0	1531-127T60-1013/914-45-31
	140	5 1/2	10 X 14	9 X 16	35°	3	-	14.0	1531-140T60-1014/916-45-31
	152	6	12 X 14	9 X 16	35°	3	-	16.0	1531-152T60-1214/916-45-31
	Parabolic buttons								
	92	3 5/8	9 X 12	9 X 12	40°	2	-	5.4	1531-92T60-912/912-45-51
	96	3 3/4	9 X 12	9 X 12	40°	2	-	6.3	1531-96T60-912/912-45-51
	102	4	10 X 12	9 X 13	40°	2	-	7.3	1531-102T60-1012/913-45-51
	115	4 1/2	10 X 12	9 X 14	40°	3	-	9.8	1531-115T60-1012/914-45-51
118	4 5/8	6 X 13	9 X 16	35°	3	-	10.0	1531-118T60-613/916-45-51	
127	5	10 X 13	9 X 14	35°	3	-	12.0	1531-127T60-1013/914-45-51	
140	5 1/2	10 X 14	9 X 16	35°	3	-	14.0	1531-140T60-1014/916-45-51	
152	6	12 X 14	9 X 16	35°	3	-	16.0	1531-152T60-1214/916-45-51	

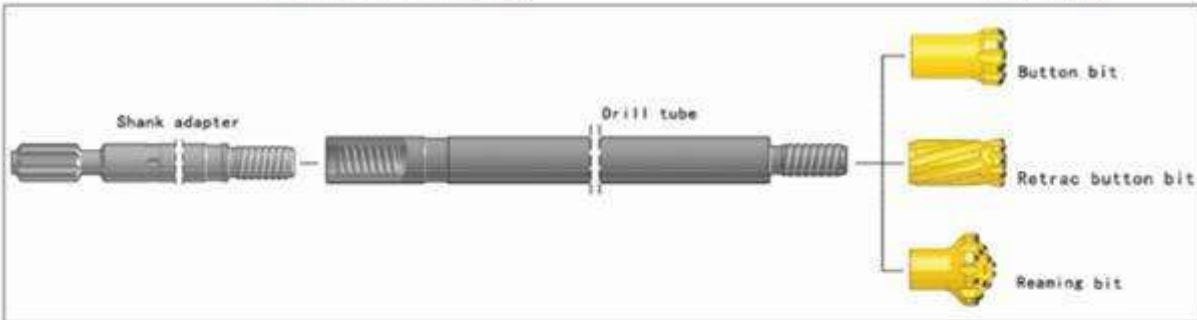
## Bench drilling

## T60

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
MF-rod, For bits from 96mm 内孔 Flushing hole 22.5mm. 	3660	12'	60	2 3/8	73.9	24R60-T60/85-3600-23
	4265	14'	60	2 3/8	85.5	24R60-T60/85-4265-23
	6095	20'	60	2 3/8	116.6	24R60-T60/85-6095-23
	4265	14'	64	2 1/2	95.0	24R64-T60/85-4265-23
MF-rod, For bits from 92-115mm 内孔 Flushing hole 22.0mm. 	3660	12'	60	2 3/8	73.9	24R60-T60/82-3600-23
	4265	14'	60	2 3/8	85.5	24R60-T60/82-4265-23
	6095	20'	60	2 3/8	116.6	24R60-T60/82-6095-23
Pilot Tube Female end OD 85mm (82mm on 76mm tubes) 	1600	5'3"	87	3 1/2	39.0	24087-T60/85-1600-23
	4265	14'	87	3 1/2	99.0	24087-T60/85-4265-23
	5335	17'6"	76	3	124.9	24676-T60/85-5335-23
Drill Tube 	3660	12'	87	3 1/2	87.8	24087-T60/87-3660-23
	4265	14'	87	3 1/2	99.0	24087-T60/87-4265-23

# Bench drilling


# ST58

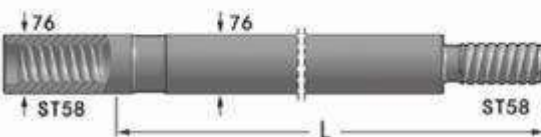


Drill bit	Diameter		No x/button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	Inch	Front	Gauge	Angle	Front	Side		
<b>Button bit</b> 	Spherical buttons								
	89	3 1/2	6x12	8x12	35°	2	1	4.1	1431-89ST58-612/812-45-31
	89	3 1/2	6x13	8x13	35°	2	1	4.1	1431-89ST58-613/813-45-31
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	4.1	1432-89ST58-513/813-45-31
	89	3 1/2	4x12, 2x12	8x12	35°	4	-	4.1	1433-89ST58-612/812-45-31
	95	3 3/4	4x13, 1x13	8x14	35°	4	-	4.6	1433-95ST58-513/814-45-31
	102	4	6x14	8x14	35°	2	-	6.0	1431-102ST58-614/814-45-31
	102	4	6x13	8x16	35°	2	1	6.0	1431-102ST58-613/816-45-31
	115	4 1/2	6x14	8x16	35°	2	-	7.0	1431-115ST58-614/816-45-31
	Parabolic buttons								
	89	3 1/2	6x12	8x12	35°	2	1	4.1	1431-89ST58-612/812-45-51
	89	3 1/2	6x13	8x13	35°	2	1	4.1	1431-89ST58-613/813-45-51
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	4.1	1432-89ST58-513/813-45-51
	89	3 1/2	4x12, 2x12	8x12	35°	4	-	4.1	1433-89ST58-612/812-45-51
95	3 3/4	4x13, 1x13	8x14	35°	4	-	4.6	1433-95ST58-513/814-45-51	
102	4	6x14	8x14	35°	2	-	6.0	1431-102ST58-614/814-45-51	
102	4	6x13	8x16	35°	2	1	6.0	1431-102ST58-613/816-45-51	
115	4 1/2	6x14	8x16	35°	2	-	7.0	1431-115ST58-614/816-45-51	
<b>Retrac button bit</b> 	Spherical buttons								
	89	3 1/2	6x12	8x14	35°	2	1	5.1	1531-89ST58-612/814-45-31
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	5.1	1632-89ST58-513/813-45-31
	102	4	7x12	8x14	35°	2	1	6.5	1531-102ST58-712/814-45-31
	115	4 1/2	6x14	8x16	35°	2	-	8.5	1531-115ST58-614/816-45-31
	Parabolic buttons								
	89	3 1/2	6x12	8x14	35°	2	1	5.1	1531-89ST58-612/814-45-51
	89	3 1/2	4x13, 1x13	8x13	35°	4	-	5.1	1632-89ST58-513/813-45-51
	102	4	7x12	8x14	35°	2	1	6.5	1531-102ST58-712/814-45-51
	115	4 1/2	6x14	8x16	35°	2	-	8.5	1531-115ST58-614/816-45-51

# Bench drilling

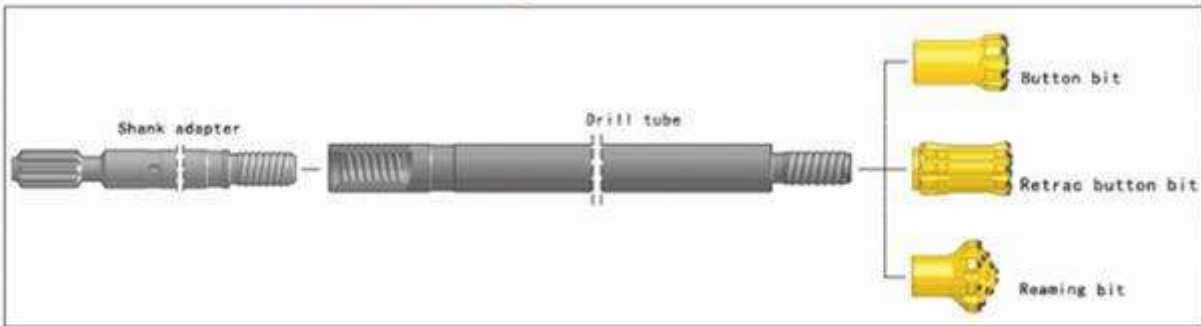
# ST58





Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
Reaming bit 	Spherical buttons								
	152	6	6×16	9×16	35°	3	-	13.0	1441-152ST58-616/916-45-31
	152	6	2×14	18×14	35°	3	3	10.4	1441-152ST58-214/1814-45-31
	Parabolic buttons								
	152	6	6×16	9×16	35°	3	-	13.0	1441-152ST58-616/916-45-51
	152	6	2×14	18×14	35°	3	3	10.4	1441-152ST58-214/1814-45-51

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
Drill tube, Flushing hole 26mm. 	1525	5'	76	2 3/8	34.0	24676-ST58/76-1525-23
	1830	6'	76	2 3/8	40.0	24676-ST58/76-1830-23
	3060	12'	76	2 3/8	76.3	24676-ST58/76-3060-23

# Bench drilling

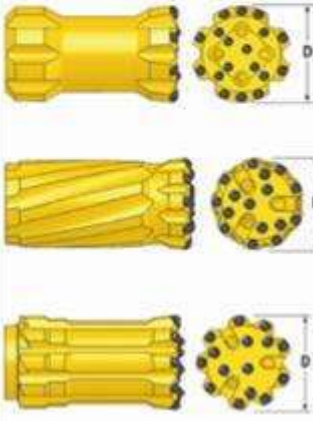
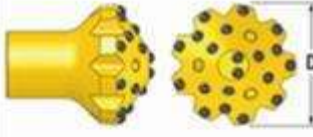
# ST68



Drill bit	Diameter		No x button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
Spherical buttons									
 Button bit	102	4	6X14	8X14	35°	2	-	8.7	1431-102ST68-614/814-45-31
	102	4	4X12, 4X12	10X12	35°	4	-	8.7	1432-102ST68-812/1012-45-31
	105	4 1/8	6X14	8X14	35°	2	-	8.9	1431-105ST68-614/814-45-31
	105	4 1/8	4X14, 2X12	8X14	35°	4	-	8.9	1433-105ST68-614/814-45-31
	110	4 3/8	6X14	8X16	35°	2	-	9.4	1431-110ST68-614/816-45-31
	110	4 3/8	4X14, 2X14	8X16	35°	4	-	8.9	1433-110ST68-614/816-45-31
	115	4 1/2	6X14	8X16	35°	2	-	9.6	1431-115ST68-614/816-45-31
	115	4 1/2	4X14, 2X14	8X16	35°	4	-	9.5	1433-115ST68-614/816-45-31
	115	4 1/2	4X14, 4X14	10X14	35°	4	-	9.5	1433-115ST68-814/1014-45-31
	127	5	8X14	9X16	35°	3	-	11.0	1431-127ST68-814/916-45-31
 Retrac button bit	127	5	4X14, 3X14	8X16	35°	4	-	10.8	1433-127ST68-714/816-45-31
	152	6	8X16	9X16	35°	3	-	16.2	1431-152ST68-816/916-45-31
	152	6	9X16	9X16	35°	3	-	16.2	1431-152ST68-916/916-45-31
	152	6	9X14, 3X14	9X16	35°	3	-	16.2	1433-152ST68-1214/916-45-31
Parabolic buttons									
 Parabolic button bit	102	4	6X14	8X14	35°	2	-	8.7	1431-102ST68-614/814-45-51
	102	4	4X12, 4X12	10X12	35°	4	-	8.7	1432-102ST68-812/1012-45-51
	105	4 1/8	6X14	8X14	35°	2	-	8.9	1431-105ST68-614/814-45-51
	105	4 1/8	4X14, 2X12	8X14	35°	4	-	8.9	1433-105ST68-614/814-45-51
	110	4 3/8	6X14	8X16	35°	2	-	9.4	1431-110ST68-614/816-45-51
	110	4 3/8	4X14, 2X14	8X16	35°	4	-	8.9	1433-110ST68-614/816-45-51
	115	4 1/2	6X14	8X16	35°	2	-	9.6	1431-115ST68-614/816-45-51
	115	4 1/2	4X14, 2X14	8X16	35°	4	-	9.5	1433-115ST68-614/816-45-51
	115	4 1/2	4X14, 4X14	10X14	35°	4	-	9.5	1433-115ST68-814/1014-45-51
	127	5	8X14	9X16	35°	3	-	11.0	1431-127ST68-814/916-45-51
 Retrac parabolic button bit	127	5	4X14, 3X14	8X16	35°	4	-	10.8	1433-127ST68-714/816-45-51
	152	6	8X16	9X16	35°	3	-	16.2	1431-152ST68-816/916-45-51
	152	6	9X16	9X16	35°	3	-	16.2	1431-152ST68-916/916-45-51
	152	6	9X14, 3X14	9X16	35°	3	-	16.2	1433-152ST68-1214/916-45-51









# Bench drilling

# ST68



















Drill bit	Diameter		No X button diameter			Flushing hole		Weight approx kg	Product NO.
	mm	inch	Front	Gauge	Angle	Front	Side		
<b>Retrab button bit</b> 	Spherical buttons								
	102	4	4x12, 4x12	10x12	35°	4	-	9.3	1632-102ST68-812/1012-45-31
	102	4	4x14, 2x12	8x14	35°	4	-	9.3	1533-102ST68-614/814-45-31
	110	4 3/8	6x14	8x16	35°	2	-	10.0	1531-110ST68-614/816-45-31
	115	4 1/2	6x14	8x16	35°	2	-	10.0	1531-115ST68-614/816-45-31
	127	5	8x14	9x16	35°	3	-	15.0	1531-127ST68-814/916-45-31
	140	5 1/2	9x14	9x16	35°	3	-	17.8	1531-140ST68-914/916-45-31
	Parabolic buttons								
	102	4	4x12, 4x12	10x12	35°	4	-	9.3	1632-102ST68-812/1012-45-51
	102	4	4x14, 2x12	8x14	35°	4	-	9.3	1533-102ST68-614/814-45-51
	110	4 3/8	6x14	8x16	35°	2	-	10.0	1531-110ST68-614/816-45-51
	115	4 1/2	6x14	8x16	35°	2	-	10.0	1531-115ST68-614/816-45-51
	127	5	8x14	9x16	35°	3	-	15.0	1531-127ST68-814/916-45-51
	140	5 1/2	9x14	9x16	35°	3	-	17.8	1531-140ST68-914/916-45-51
<b>Reaming bit</b> 	Spherical buttons								
	152	6	6x16	9x16	35°	3	-	13.0	1441-152ST68-616/916-45-31
	152	6	2x14	18x14	35°	3	3	10.4	1441-152ST68-214/1814-45-31
	Parabolic buttons								
	152	6	6x16	9x16	35°	3	-	13.0	1441-152ST68-616/916-45-51
	152	6	2x14	18x14	35°	3	3	10.4	1441-152ST68-214/1814-45-51

Drill rod	Length		Diameter		Weight approx kg	Product NO.
	mm	Foot	mm	inch		
<b>Drill tube</b> Flushing hole 30mm 	1525	5'	87	3 7/16	35.5	24687-ST68/87-1525-23
	1830	6'	87	3 7/16	43.8	24687-ST68/87-1830-23
	3660	12'	87	3 7/16	80.0	24687-ST68/87-3660-23
	6110	20'	87	3 7/16	133.0	24687-ST68/87-6110-23



## Bit face designs

Face	Button	Applications
<p>Concave face</p> 	<p>Parabolic</p> 	<ul style="list-style-type: none"> <li>• Straight hole application, fast penetration</li> <li>• Suited for soft to medium rock</li> <li>• Non Abrasive</li> </ul>
<p>Concave face</p> 	<p>Spherical</p> 	<ul style="list-style-type: none"> <li>• Straight hole application, wearing resistance good</li> <li>• Suited for medium to hard rock</li> <li>• Abrasive</li> </ul>
<p>Convex face</p> 	<p>Parabolic</p> 	<ul style="list-style-type: none"> <li>• fast penetration</li> <li>• Suited for soft rock</li> <li>• Non Abrasive</li> </ul>
<p>Flat face</p> 	<p>Spherical</p> 	<ul style="list-style-type: none"> <li>• Wearing resistance good</li> <li>• Suited for hard rock</li> <li>• Abrasive</li> </ul>





## Bit shank identification chart

 181mm 8 Splines (花键)	DHD 3.5 · 3"	 279.4mm 10 Splines (花键)	QL 40 · 4"
 209mm 8 Splines (花键)	DHD 340 · 4"	 240mm 12 Splines (花键)	QL 50 · 5"
 261mm 8 Splines (花键)	DHD 350 · 5"	 253.3mm 12 Splines (花键)	QL 60 · 6"
 308mm 8 Splines (花键)	DHD 360 · 6"	 331.7mm 16 Splines (花键)	QL 80 · 8"
 350mm 10 Splines (花键)	DHD 380 · 8"	 224mm 8 Splines (花键)	M 30 · 3"
 260mm 8 Splines (花键)	SD 4 · 4"	 228mm 12 Splines (花键)	M 40 · 4"
 260mm 8 Splines (花键)	SD 5 · 5"	 287mm 12 Splines (花键)	M 50 · 5"
 324mm 8 Splines (花键)	SD 6 · 6"	 230mm 12 Splines (花键)	M 60 · 6"
 321mm 8 Splines (花键)	SD 8 · 8"	 329mm 12 Splines (花键)	M 80 · 8"








## Low air pressure DTH Bits

DTH Bit	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO.	
	mm	inch	Front	Gauge				
<b>CIR80</b> 	Parabolic button/Convex face							
	80	3 1/7	2×12, 2×12	6×13	2	3	614-80CR80-412/613-42-53	
	Spherical button/Flat face							
	90	3 1/2	4×12	6×14	3	3	611-90CR80-412/614-42-33	
<b>CIR90</b> 	Parabolic button/Convex face							
	90	3 1/2	2×13, 2×12	6×14	2	3.5	614-90CR90-413/614-42-53	
	93	3 5/8	2×13, 2×12	6×14	2	3.6	614-93CR90-413/614-42-53	
	95	3 3/4	2×14, 2×12	6×14	2	3.7	614-95CR90-414/614-42-53	
		Spherical button/Flat face						
		90	3 1/2	4×12	6×14	3	3.5	611-90CR90-412/614-42-33
93		3 5/8	4×12	6×14	3	3.6	611-93CR90-412/614-42-33	
	95	3 3/4	4×12	6×14	3	3.7	611-95CR90-412/614-42-33	








## High air pressure DTH Bits

3"	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO.	
	mm	inch	Front	Gauge				
<b>DHD3.5</b>  	Parabolic button/Convex face							
	90	3 1/2	4×12, 2×12	8×12	2	4.5	614-90D3.5-612/812-22-51	
	95	3 3/4	4×12, 2×12	8×12	2	4.8	614-95D3.5-612/812-22-51	
	100	3 7/8	4×13, 2×13	8×13	2	5	614-100D3.5-613/813-22-51	
	105	4 1/8	4×14, 2×14	8×14	2	5.5	614-105D3.5-614/814-22-51	
		Spherical button/Flat face						
		90	3 1/2	6×12	8×12	2	4.5	611-90D3.5-612/812-22-41
		95	3 3/4	6×12	8×12	2	4.8	611-95D3.5-612/812-22-41
100		3 7/8	6×13	8×13	2	5	611-100D3.5-613/813-22-41	
	105	4 1/8	6×14	8×14	2	5.5	611-105D3.5-614/814-22-41	
<b>M30</b>  	Parabolic button/Convex face							
	90	3 1/2	4×12, 2×12	8×12	2	4.7	614-90M30-612/812-22-51	
	95	3 3/4	4×12, 2×12	8×12	2	4.9	614-95M30-612/812-22-51	
	100	3 7/8	4×13, 2×13	8×13	2	5.3	614-100M30-613/813-22-51	
	105	4 1/8	4×14, 2×14	8×14	2	5.6	614-105M30-614/814-22-51	
		Spherical button/Flat face						
		90	3 1/2	6×12	8×12	2	4.7	611-90M30-612/812-22-41
		95	3 3/4	6×12	8×12	2	4.9	611-95M30-612/812-22-41
100		3 7/8	6×13	8×13	2	5.3	611-100M30-613/813-22-41	
	105	4 1/8	6×14	8×14	2	5.6	611-105M30-614/814-22-41	








## High air pressure DTH Bits

<b>4"</b>	Diameter		No x button diameter		Air holes	Weight (Kg)	Product NO.
	mm	inch	Front	Gauge			
<b>DND340</b>        	Parabolic button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	10.0	613-1150340-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	11.0	613-1210340-614/814-22-51
	127	5	4X14, 3X14	8X14	2	12.0	613-1270340-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	14.0	613-1300340-714/816-22-51
	Spherical button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	10.0	613-1150340-614/814-22-41
	121	4 3/4	4X14, 2X14	8X14	2	11.0	613-1210340-614/814-22-41
	127	5	4X14, 3X14	8X14	2	12.0	613-1270340-714/814-22-41
	130	5 1/8	4X14, 3X14	8X16	2	14.0	613-1300340-714/816-22-41
	133	5 1/4	4X14, 3X14	8X16	2	15.0	613-1330340-714/816-22-41
	Parabolic button/Convex face						
	110	4 3/8	4X14, 2X14	8X14	2	9.3	614-1100340-614/814-22-51
	115	4 1/2	4X14, 2X14	8X14	2	10.0	614-1150340-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	11.0	614-1210340-614/814-22-51
	127	5	4X14, 3X14	8X14	2	12.0	614-1270340-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	14.0	614-1300340-714/816-22-51
	133	5 1/4	4X14, 3X14	8X16	2	15.0	614-1330340-714/816-22-51
	Spherical button/Flat face						
	110	4 3/8	6X14	8X14	2	9.3	611-1100340-614/814-22-41
115	4 1/2	6X14	8X14	2	10.0	611-1150340-614/814-22-41	
121	4 3/4	6X14	8X14	2	11.0	611-1210340-614/814-22-41	
127	5	7X14	8X14	2	12.0	611-1270340-714/814-22-41	
130	5 1/8	7X14	8X16	2	14.0	611-1300340-714/816-22-41	
133	5 1/4	7X14	8X16	2	15.0	611-1330340-714/816-22-41	
<b>SD4</b>      	Spherical button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	9.8	613-115SD4-614/814-22-41
	121	4 3/4	4X14, 2X14	8X14	2	11.5	613-121SD4-614/814-22-41
	127	5	4X14, 3X14	8X14	2	12.3	613-127SD4-714/814-22-41
	130	5 1/8	4X14, 3X14	8X16	2	14.3	613-130SD4-714/816-22-41
	Parabolic button/Convex face						
	110	4 3/8	4X14, 2X14	8X14	2	9.5	614-110SD4-614/814-22-51
	115	4 1/2	4X14, 2X14	8X14	2	9.8	614-115SD4-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	11.5	614-121SD4-614/814-22-51
	127	5	4X14, 3X14	8X14	2	12.3	614-127SD4-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	14.3	614-130SD4-714/816-22-51
	133	5 1/4	4X14, 3X14	8X16	2	15.3	614-133SD4-714/816-22-51
	Spherical button/Flat face						
	110	4 3/8	6X14	8X14	2	9.5	611-110SD4-614/814-22-41
	115	4 1/2	6X14	8X14	2	9.8	611-115SD4-614/814-22-41
	121	4 3/4	6X14	8X14	2	11.5	611-121SD4-614/814-22-41
	127	5	7X14	8X14	2	12.3	611-127SD4-714/814-22-41
	130	5 1/8	7X14	8X16	2	14.3	611-130SD4-714/816-22-41
	133	5 1/4	7X14	8X16	2	15.3	611-133SD4-714/816-22-41








## High air pressure DTH Bits

4"	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO.
	mm	inch	Front	Gauge			
<b>QL40</b>      	Spherical button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	10.0	613-115QL40-614/814-22-41
	121	4 3/4	4X14, 2X14	8X14	2	11.0	613-121QL40-614/814-22-41
	127	5	4X14, 3X14	8X14	2	12.0	613-127QL40-714/814-22-41
	130	5 1/8	4X14, 3X14	8X16	2	14.0	613-130QL40-714/816-22-41
	133	5 1/4	4X14, 4X14	8X16	2	15.0	613-133QL40-814/816-22-41
	Parabolic button/Convex face						
	110	4 3/8	4X14, 2X14	8X14	2	9.3	614-110QL40-614/814-22-51
	115	4 1/2	4X14, 2X14	8X14	2	10.0	614-115QL40-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	11.0	614-121QL40-614/814-22-51
	127	5	4X14, 3X14	8X14	2	12.0	614-127QL40-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	14.0	614-130QL40-714/816-22-51
	133	5 1/4	4X14, 4X14	8X16	2	15.0	614-133QL40-814/816-22-51
	Spherical button/Flat face						
	110	4 3/8	6X14	8X14	2	10.0	611-110QL40-614/814-22-41
	115	4 1/2	6X14	8X14	2	10.3	611-115QL40-614/814-22-41
	121	4 3/4	6X14	8X14	2	10.6	611-121QL40-614/814-22-41
	127	5	7X14	8X14	2	11.5	611-127QL40-714/814-22-41
130	5 1/8	7X14	8X16	2	12.0	611-130QL40-714/816-22-41	
133	5 1/4	7X14	8X16	2	12.6	611-133QL40-714/816-22-41	
<b>M40</b>        	Parabolic button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	6.8	613-115M40-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	7.4	613-121M40-614/814-22-51
	127	5	4X14, 3X14	8X14	2	7.6	613-127M40-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	8.0	613-130M40-714/816-22-51
	Spherical button/Concave face						
	115	4 1/2	4X14, 2X14	8X14	2	6.8	613-115M40-614/814-22-41
	121	4 3/4	4X14, 2X14	8X14	2	7.4	613-121M40-614/814-22-41
	127	5	4X14, 3X14	8X14	2	7.6	613-127M40-714/814-22-41
	130	5 1/8	4X14, 3X14	8X16	2	8.0	613-130M40-714/816-22-41
	133	5 1/4	4X14, 4X14	8X16	2	8.3	613-133M40-814/816-22-41
	Parabolic button/Convex face						
	110	4 3/8	4X14, 2X14	8X14	2	6.4	614-110M40-614/814-22-51
	115	4 1/2	4X14, 2X14	8X14	2	6.6	614-115M40-614/814-22-51
	121	4 3/4	4X14, 2X14	8X14	2	7.4	614-121M40-614/814-22-51
	127	5	4X14, 3X14	8X14	2	7.6	614-127M40-714/814-22-51
	130	5 1/8	4X14, 3X14	8X16	2	8.0	614-130M40-714/816-22-51
	133	5 1/4	4X14, 4X14	8X16	2	8.3	614-133M40-814/816-22-51
	Spherical button/Flat face						
	110	4 3/8	6X14	8X14	2	6.4	611-110M40-614/814-22-41
	115	4 1/2	6X14	8X14	2	6.8	611-115M40-614/814-22-41
	121	4 3/4	6X14	8X14	2	7.4	611-121M40-614/814-22-41
	127	5	7X14	8X14	2	7.6	611-127M40-714/814-22-41
	130	5 1/8	7X14	8X16	2	8.0	611-130M40-714/816-22-41
133	5 1/4	7X14	8X16	2	8.3	611-133M40-714/816-22-41	






## High air pressure DTH Bits

5"	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO.
	mm	inch	Front				
			Front	Gauge			
<b>DHD350</b>        	Parabolic button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	15.0	613-1300350-714/816-22-51
	133	5 1/4	4X14, 3X14	8X16	2	15.0	613-1330350-714/816-22-51
	140	5 1/2	4X14, 4X14	8X16	2	16.0	613-1400350-814/816-22-51
	146	5 3/4	4X14, 4X14	8X16	2	18.0	613-1460350-814/816-22-51
	152	6	4X16, 4X16	8X18	2	20.0	613-1520350-816/818-22-51
	Spherical button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	15.0	613-1300350-714/816-22-41
	133	5 1/4	4X14, 3X14	8X16	2	15.0	613-1330350-714/816-22-41
	140	5 1/2	4X14, 4X14	8X16	2	16.0	613-1400350-814/816-22-41
	146	5 3/4	4X14, 4X14	8X16	2	18.0	613-1460350-814/816-22-41
	152	6	4X16, 4X16	8X18	2	20.0	613-1520350-816/818-22-41
	Parabolic button/Convex face						
	130	5 1/8	3X14, 4X14	9X16	3	15.0	614-1300350-714/916-22-51
	133	5 1/4	3X14, 4X14	9X16	3	15.0	614-1330350-714/916-22-51
	140	5 1/2	3X16, 4X16	9X16	3	16.0	614-1400350-716/916-22-51
	146	5 3/4	3X16, 4X16	9X16	3	18.0	614-1460350-716/916-22-51
	152	6	3X16, 5X16	9X18	3	20.0	614-1520350-816/918-22-51
	Spherical button/Flat face						
	130	5 1/8	7X14	8X16	2	15.0	611-1300350-714/816-22-41
133	5 1/4	7X14	8X16	2	15.0	611-1330350-714/816-22-41	
140	5 1/2	7X14	7X18	2	16.0	611-1400350-714/718-22-41	
140	5 1/2	8X14	9X16	3	16.0	611-1400350-814/916-22-41	
146	5 3/4	8X14	9X16	3	18.0	611-1460350-814/916-22-41	
152	6	8X16	9X18	3	20.0	611-1520350-816/918-22-41	
<b>SD5</b>      	Spherical button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	14.0	613-130SD5-714/816-22-41
	133	5 1/4	4X14, 3X14	8X16	2	14.0	613-133SD5-714/816-22-41
	140	5 1/2	4X14, 4X14	8X16	2	15.0	613-140SD5-814/816-22-41
	146	5 3/4	4X14, 4X14	8X16	2	15.8	613-146SD5-814/816-22-41
	152	6	4X16, 4X16	8X18	2	18.0	613-152SD5-816/818-22-41
	Parabolic button/Convex face						
	130	5 1/8	3X14, 4X14	9X16	3	14.0	614-130SD5-714/916-22-51
	133	5 1/4	3X14, 4X14	9X16	3	14.0	614-133SD5-714/916-22-51
	140	5 1/2	3X16, 4X16	9X16	3	15.0	614-140SD5-716/916-22-51
	146	5 3/4	3X16, 4X16	9X16	3	15.8	614-146SD5-716/916-22-51
	152	6	3X16, 5X16	9X18	3	18.0	614-152SD5-816/918-22-51
	Spherical button/Flat face						
	130	5 1/8	7X14	8X16	2	14.0	611-130SD5-714/816-22-41
	133	5 1/4	7X14	8X16	2	14.0	611-133SD5-714/816-22-41
	140	5 1/2	7X14	7X18	2	15.0	611-140SD5-714/718-22-41
	140	5 1/2	8X14	9X16	3	15.0	611-140SD5-814/916-22-41
	146	5 3/4	8X14	9X16	3	15.8	611-146SD5-814/916-22-41
	152	6	8X16	9X18	3	18.0	611-152SD5-816/918-22-41





## High air pressure DTH Bits

5"	Diameter		No x button diameter		Air holes	Weight (Kg)	Product NO.
	mm	inch	Front	Gauge			
<b>DL50</b>      	Spherical button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	14.5	613-130DL50-714/816-22-41
	133	5 1/4	4X14, 3X14	8X16	2	14.5	613-133DL50-714/816-22-41
	140	5 1/2	4X14, 4X14	8X16	2	15.5	613-140DL50-814/816-22-41
	146	5 3/4	4X14, 4X14	8X16	2	15.6	613-146DL50-814/816-22-41
	152	6	4X16, 4X16	8X18	2	16.5	613-152DL50-816/818-22-41
	Parabolic button/Convex face						
	130	5 1/8	3X14, 4X14	9X16	3	14.5	614-130DL50-714/916-22-51
	133	5 1/4	3X14, 4X14	9X16	3	14.5	614-133DL50-714/916-22-51
	140	5 1/2	3X16, 4X16	9X16	3	15.5	614-140DL50-716/916-22-51
	146	5 3/4	3X16, 4X16	9X16	3	15.6	614-146DL50-716/916-22-51
	152	6	3X16, 5X16	9X18	3	16.5	614-152DL50-816/918-22-51
	Spherical button/Flat face						
	130	5 1/8	7X14	8X16	2	14.5	611-130DL50-714/816-22-41
	133	5 1/4	7X14	8X16	2	14.5	611-133DL50-714/816-22-41
	140	5 1/2	7X14	7X18	2	15.5	611-140DL50-714/718-22-41
	140	5 1/2	8X14	9X16	3	15.5	611-140DL50-814/916-22-41
	146	5 3/4	8X14	9X16	3	15.6	611-146DL50-814/916-22-41
152	6	8X16	9X18	3	16.5	611-152DL50-816/918-22-41	
<b>M50</b>        	Parabolic button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	13.9	613-130M50-714/816-22-51
	133	5 1/4	4X14, 3X14	8X16	2	14.3	613-133M50-714/816-22-51
	140	5 1/2	4X14, 4X14	8X16	2	15.0	613-140M50-814/816-22-51
	146	5 3/4	4X14, 4X14	8X16	2	16.0	613-146M50-814/816-22-51
	152	6	4X16, 4X16	8X18	2	17.1	613-152M50-816/818-22-51
	Spherical button/Concave face						
	130	5 1/8	4X14, 3X14	8X16	2	13.9	613-130M50-714/816-22-41
	133	5 1/4	4X14, 3X14	8X16	2	14.3	613-133M50-714/816-22-41
	140	5 1/2	4X14, 4X14	8X16	2	15.0	613-140M50-814/816-22-41
	146	5 3/4	4X14, 4X14	8X16	2	16.0	613-146M50-814/816-22-41
	152	6	4X16, 4X16	8X18	2	17.1	613-152M50-816/818-22-41
	Parabolic button/Convex face						
	130	5 1/8	3X14, 4X14	9X16	3	13.9	614-130M50-714/916-22-51
	133	5 1/4	3X14, 4X14	9X16	3	14.3	614-133M50-714/916-22-51
	140	5 1/2	3X16, 4X16	9X16	3	15.0	614-140M50-716/916-22-51
	146	5 3/4	3X16, 4X16	9X16	3	16.0	614-146M50-716/916-22-51
	152	6	3X16, 5X16	9X18	3	17.1	614-152M50-816/918-22-51
Spherical button/Flat face							
130	5 1/8	7X14	8X16	2	13.9	611-130M50-714/816-22-41	
133	5 1/4	7X14	8X16	2	14.3	611-133M50-714/816-22-41	
140	5 1/2	8X14	9X16	3	15.0	611-140M50-814/916-22-41	
146	5 3/4	8X14	9X16	3	16.0	611-146M50-814/916-22-41	
152	6	8X16	9X18	3	17.1	611-152M50-816/918-22-41	









## High air pressure DTH Bits

6"	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO
	mm	inch	Front	Gauge			
			Spherical button/Concave face				
    	Spherical button/Concave face						
	152	6	4X16, 4X16	8X18	2	26.0	613-1520360-816/818-22-41
	155	6 1/8	4X16, 4X16	8X18	2	27.0	613-1550360-816/818-22-41
	159	6 1/4	4X16, 4X16	8X18	2	29.0	613-1590360-816/818-22-41
	165	6 1/2	4X16, 4X16	8X18	2	30.0	613-1650360-816/818-22-41
	165	6 1/2	4X18, 4X18	8X18	2	30.0	613-1650360-818/818-22-41
	172	6 3/4	4X18, 4X18	8X18	2	31.0	613-1720360-818/818-22-41
	178	7	4X18, 4X18	8X18	2	32.0	613-1780360-818/818-22-41
	190	7 1/2	3X18, 5X18	9X18	3	34.0	613-1900360-818/918-22-41
	203	8	3X18, 6X18	9X18	3	36.0	613-2030360-918/918-22-41
	Parabolic button/Convex face						
	152	6	6X16, 4X16	9X18	3	26.0	614-1520360-1016/918-22-51
	155	6 1/8	6X16, 4X16	9X18	3	27.0	614-1550360-1016/918-22-51
	159	6 1/4	6X16, 4X16	9X18	3	29.0	614-1590360-1016/918-22-51
	165	6 1/2	6X18, 4X18	9X18	3	30.0	614-1650360-1018/918-22-51
	172	6 3/4	6X18, 4X18	9X18	3	31.0	614-1720360-1018/918-22-51
	178	7	6X18, 4X18	9X18	3	32.0	614-1780360-1018/918-22-51
	190	7 1/2	6X18, 5X18	9X18	3	34.0	614-1900360-1118/918-22-51
	203	8	6X18, 6X18	9X18	3	36.0	614-2030360-1218/918-22-51
	Spherical button/Flat face						
	152	6	8X16	9X18	3	26.0	611-1520360-816/918-22-41
	155	6 1/8	8X16	9X18	3	27.0	611-1550360-816/918-22-41
	159	6 1/4	9X16	9X18	3	29.0	611-1590360-916/918-22-41
	165	6 1/2	8X16	8X18	2	30.0	611-1650360-816/818-22-41
165	6 1/2	8X16	9X18	3	30.0	611-1650360-816/918-22-41	
172	6 3/4	8X18	9X18	3	31.0	611-1720360-818/918-22-41	
178	7	8X18	9X18	3	32.0	611-1780360-818/918-22-41	
190	7 1/2	9X18	9X18	3	34.0	611-1900360-918/918-22-41	
203	8	9X18	9X18	3	36.0	611-2030360-918/918-22-41	
  	Parabolic button/Concave face						
	152	6	4X16, 4X16	8X18	2	26.8	613-152SD6-816/818-22-51
	155	6 1/8	4X16, 4X16	8X18	2	27.0	613-155SD6-816/818-22-51
	159	6 1/4	4X16, 4X16	8X18	2	27.8	613-159SD6-816/818-22-51
	165	6 1/2	4X16, 4X16	8X18	2	28.0	613-165SD6-816/818-22-51
	172	6 3/4	4X18, 4X18	8X18	2	30.0	613-172SD6-818/818-22-51
	178	7	4X18, 4X18	8X18	2	32.0	613-178SD6-818/818-22-51
	190	7 1/2	3X18, 5X18	9X18	3	33.0	613-190SD6-818/918-22-51
	203	8	3X18, 6X18	9X18	3	35.0	613-203SD6-918/918-22-51
	Spherical button/Concave face						
	152	6	4X16, 4X16	8X18	2	26.8	613-152SD6-816/818-22-41
	155	6 1/8	4X16, 4X16	8X18	2	27.0	613-155SD6-816/818-22-41
	159	6 1/4	4X16, 4X16	8X18	2	27.8	613-159SD6-816/818-22-41
	165	6 1/2	4X16, 4X16	8X18	2	28.0	613-165SD6-816/818-22-41
	172	6 3/4	4X18, 4X18	8X18	2	30.0	613-172SD6-818/818-22-41
	178	7	4X18, 4X18	8X18	2	32.0	613-178SD6-818/818-22-41
	190	7 1/2	3X18, 5X18	9X18	3	33.0	613-190SD6-818/918-22-41
	203	8	3X18, 6X18	9X18	3	35.0	613-203SD6-918/918-22-41

## High air pressure DTH Bits

6"	Diameter		No x button diameter		Air holes	Weight (Kg)	Product NO.	
	mm	Inch	Front	Gauge				
			Spherical button/Concave face					
QL60  	Spherical button/Concave face							
	152	6	4X16, 4X16	8X18	2	25.0	613-152QL60-816/818-22-41	
	155	6 1/8	4X16, 4X16	8X18	2	25.8	613-155QL60-816/818-22-41	
	159	6 1/4	4X16, 4X16	8X18	2	26.0	613-159QL60-816/818-22-41	
	165	6 1/2	4X16, 4X16	8X18	2	27.6	613-165QL60-816/818-22-41	
	172	6 3/4	4X18, 4X18	8X18	2	28.0	613-172QL60-818/818-22-41	
	178	7	4X18, 4X18	8X18	2	29.0	613-178QL60-818/818-22-41	
	190	7 1/2	3X18, 5X18	9X18	3	30.0	613-190QL60-818/918-22-41	
	203	8	3X18, 6X18	9X18	3	32.0	613-203QL60-918/918-22-41	
		Spherical button/Flat face						
		152	6	8X16	9X18	3	25.0	611-152QL60-816/918-22-41
		155	6 1/8	8X16	9X18	3	25.8	611-155QL60-816/918-22-41
		159	6 1/4	9X16	9X18	3	26.0	611-159QL60-916/918-22-41
		165	6 1/2	8X16	8X18	2	27.6	611-165QL60-816/818-22-41
165		6 1/2	8X16	9X18	3	27.6	611-165QL60-816/918-22-41	
172		6 3/4	8X18	9X18	3	28.0	611-172QL60-818/918-22-41	
178		7	8X18	9X18	3	29.0	611-178QL60-818/918-22-41	
190		7 1/2	9X18	9X18	3	30.0	611-190QL60-918/918-22-41	
203		8	9X18	9X18	3	32.0	611-203QL60-918/918-22-41	
M60      	Spherical button/Concave face							
	152	6	4X16, 4X16	8X18	2	21.0	613-152M60-816/818-22-41	
	155	6 1/8	4X16, 4X16	8X18	2	21.8	613-155M60-816/818-22-41	
	159	6 1/4	4X16, 4X16	8X18	2	22.0	613-159M60-816/818-22-41	
	165	6 1/2	4X16, 4X16	8X18	2	22.9	613-165M60-816/818-22-41	
	165	6 1/2	4X18, 4X18	8X18	2	22.9	613-165M60-818/818-22-41	
	172	6 3/4	4X18, 4X18	8X18	2	24.8	613-172M60-818/818-22-41	
	178	7	4X18, 4X18	8X18	2	25.0	613-178M60-818/818-22-41	
	190	7 1/2	3X18, 5X18	9X18	3	27.0	613-190M60-818/918-22-41	
	203	8	3X18, 6X18	9X18	3	29.1	613-203M60-918/918-22-41	
	Parabolic button/Convex face							
	152	6	6X16, 4X16	9X18	3	21.0	614-152M60-1016/918-22-51	
	155	6 1/8	6X16, 4X16	9X18	3	21.8	614-155M60-1016/918-22-51	
	159	6 1/4	6X16, 4X16	9X18	3	22.0	614-159M60-1016/918-22-51	
	165	6 1/2	6X18, 4X18	9X18	3	22.9	614-165M60-1018/918-22-51	
	172	6 3/4	6X18, 4X18	9X18	3	24.8	614-172M60-1018/918-22-51	
	178	7	6X18, 4X18	9X18	3	25.0	614-178M60-1018/918-22-51	
	190	7 1/2	6X18, 5X18	9X18	3	27.0	614-190M60-1118/918-22-51	
	203	8	6X18, 6X18	9X18	3	29.1	614-203M60-1218/918-22-51	
	Spherical button/Flat face							
	152	6	8X16	9X18	3	21.0	611-152M60-816/918-22-41	
	155	6 1/8	8X16	9X18	3	21.8	611-155M60-816/918-22-41	
	159	6 1/4	9X16	9X18	3	22.0	611-159M60-916/918-22-41	
	165	6 1/2	8X16	8X18	2	22.9	611-165M60-816/818-22-41	
165	6 1/2	8X16	9X18	3	22.9	611-165M60-816/918-22-41		
172	6 3/4	8X18	9X18	3	24.8	611-172M60-818/918-22-41		
178	7	8X18	9X18	3	25.0	611-178M60-818/918-22-41		
190	7 1/2	9X18	9X18	3	27.0	611-190M60-918/918-22-41		
203	8	9X18	9X18	3	29.1	611-203M60-918/918-22-41		

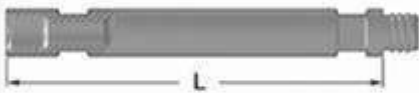
## High air pressure DTH Bits

8"	Diameter		No X button diameter		Air holes	Weight (Kg)	Product NO.	
	mm	inch	Front	Gauge				
			Spherical button/Concave face					
<b>DHD380</b>        	200	7 7/8	6×18, 6×18	9×18	3	49.2	613-2000380-1218/918-22-41	
	203	8	6×18, 6×18	9×18	3	49.7	613-2030380-1218/918-22-41	
	216	8 1/2	6×18, 8×18	9×18	3	52.0	613-2160380-1418/918-22-41	
	219	8 5/8	6×18, 9×18	9×18	3	52.7	613-2190380-1518/918-22-41	
	222	8 3/4	3×18, 5×18	12×18, 6×18	3	53.7	613-2220380-818/1818-22-41	
	226	8 7/8	3×18, 5×18	12×18, 6×18	3	54.1	613-2260380-818/1818-22-41	
	229	9	3×18, 5×18	12×18, 6×18	3	56.0	613-2290380-818/1818-22-41	
	241	9 1/2	3×18, 6×18	12×18, 6×18	3	60.1	613-2410380-918/1818-22-41	
	251	9 7/8	3×18, 7×18	12×18, 6×18	3	62.8	613-2510380-1018/1818-22-41	
	254	10	3×18, 7×18	12×18, 6×18	3	63.3	613-2540380-1018/1818-22-41	
	270	10 5/8	3×18, 8×18	12×18, 6×18	3	71.1	613-2700380-1118/1818-22-41	
	305	12	6×18, 8×18	12×18, 9×18	3	84.3	613-3050380-1418/2118-22-41	
	Parabolic button/Convex face							
	203	8	6×18, 7×18	9×18	3	49.7	614-2030380-1318/918-22-51	
	216	8 1/2	6×18, 8×18	9×18	3	52.0	614-2160380-1418/918-22-51	
222	8 3/4	6×18, 8×18	12×18	3	53.7	614-2220380-1418/1218-22-51		
Spherical button/Flat face								
203	8	9×18	9×18	3	49.7	611-2030380-918/918-22-41		
216	8 1/2	12×18	9×18	3	52.0	611-2160380-1218/918-22-41		
222	8 3/4	13×18	12×18	3	53.7	611-2220380-1318/1218-22-41		
229	9	14×18	12×18	3	56.0	611-2290380-1418/1218-22-41		
<b>S08</b>        	200	7 7/8	6×18, 6×18	9×18	3	41.0	613-200508-1218/918-22-41	
	203	8	6×18, 6×18	9×18	3	42.0	613-203508-1218/918-22-41	
	216	8 1/2	6×18, 8×18	9×18	3	53.6	613-216508-1418/918-22-41	
	219	8 5/8	6×18, 9×18	9×18	3	54.0	613-219508-1518/918-22-41	
	222	8 3/4	3×18, 5×18	12×18, 6×18	3	56.0	613-222508-818/1818-22-41	
	226	8 7/8	3×18, 5×18	12×18, 6×18	3	57.0	613-226508-818/1818-22-41	
	229	9	3×18, 5×18	12×18, 6×18	3	58.0	613-229508-818/1818-22-41	
	241	9 1/2	3×18, 6×18	12×18, 6×18	3	63.0	613-241508-918/1818-22-41	
	251	9 7/8	3×18, 7×18	12×18, 6×18	3	64.0	613-251508-1018/1818-22-41	
	254	10	3×18, 7×18	12×18, 6×18	3	67.0	613-254508-1018/1818-22-41	
	270	10 5/8	3×18, 8×18	12×18, 6×18	3	72.0	613-270508-1118/1818-22-41	
	305	12	6×18, 8×18	12×18, 9×18	3	94.0	613-305508-1418/2118-22-41	
	Parabolic button/Convex face							
	203	8	6×18, 7×18	9×18	3	42.0	614-203508-1318/918-22-51	
	216	8 1/2	6×18, 8×18	9×18	3	53.6	614-216508-1418/918-22-51	
222	8 3/4	6×18, 8×18	12×18	3	54.0	614-222508-1418/1218-22-51		
Spherical button/Flat face								
203	8	9×18	9×18	3	42.0	611-203508-918/918-22-41		
216	8 1/2	12×18	9×18	3	53.6	611-216508-1218/918-22-41		
222	8 3/4	13×18	12×18	3	54.0	611-222508-1318/1218-22-41		
229	9	14×18	12×18	3	58.0	611-229508-1418/1218-22-41		

## DTH drill pipes

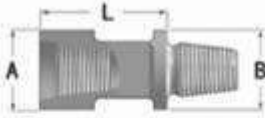


Outer diameter		Thread	Wall thickness		Length		Wrench flat		Weight approx kg	Product NO.
mm	inch		mm	inch	mm	Foot	mm	inch		
API Reg thread										
76	3	2 3/8 API Reg	5.5	1/5	1000	3' 33/8"	57	2 1/4	17	63-076-1057-5, 5-1000-42
76	3		5.5	1/5	1500	4' 11"	57	2 1/4	22	63-076-1057-5, 5-1500-42
76	3		5.5	1/5	2000	6' 63/4"	57	2 1/4	26	63-076-1057-5, 5-2000-42
76	3		5.5	1/5	3000	9' 10"	57	2 1/4	35	63-076-1057-5, 5-3000-42
76	3		5.5	1/5	1000	3' 33/8"	65	2 5/9	17	63-076-1065-5, 5-1000-42
76	3		5.5	1/5	1500	4' 11"	65	2 5/9	22	63-076-1065-5, 5-1500-42
76	3		5.5	1/5	2000	6' 63/4"	65	2 5/9	26	63-076-1065-5, 5-2000-42
76	3		5.5	1/5	3000	9' 10"	65	2 5/9	35	63-076-1065-5, 5-3000-42
76	3		6.5	1/4	3000	9' 10"	65	2 5/9	46	63-076-1065-6, 5-3000-42
76	3		6.5	1/4	4500	14' 9"	65	2 5/9	56	63-076-1065-6, 5-4500-42
76	3		6.5	1/4	6000	19' 8"	65	2 5/9	73	63-076-1065-6, 5-6000-42
89	3 1/2		5.5	1/5	1000	3' 33/8"	65	2 5/9	20	63-089-1065-5, 5-1000-42
89	3 1/2		5.5	1/5	1500	4' 11"	65	2 5/9	25	63-089-1065-5, 5-1500-42
89	3 1/2		5.5	1/5	2000	6' 63/4"	65	2 5/9	30	63-089-1065-5, 5-2000-42
89	3 1/2		5.5	1/5	3000	9' 10"	65	2 5/9	40	63-089-1065-5, 5-3000-42
89	3 1/2		6.5	1/4	1000	3' 33/8"	65	2 5/9	21	63-089-1065-6, 5-1000-42
89	3 1/2		6.5	1/4	1500	4' 11"	65	2 5/9	26	63-089-1065-6, 5-1500-42
89	3 1/2		6.5	1/4	2000	6' 63/4"	65	2 5/9	32	63-089-1065-6, 5-2000-42
89	3 1/2		6.5	1/4	3000	9' 10"	65	2 5/9	45	63-089-1065-6, 5-3000-42
89	3 1/2		6.5	1/4	4500	14' 9"	65	2 5/9	65	63-089-1065-6, 5-4500-42
89	3 1/2		6.5	1/4	6000	19' 8"	65	2 5/9	84	63-089-1065-6, 5-6000-42

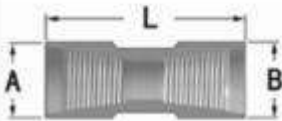


F thread										
mm	inch	Thread	mm	inch	mm	Foot	mm	inch	Weight approx kg	Product NO.
50	2	F42x10	4.5	1/6	1000	3' 33/8"	40	1 5/8		63-050-6040-4, 5-1000-42
60	2 3/8	F48x10	4.5	1/6	1000	3' 33/8"	40	1 5/8		63-060-6140-4, 5-1000-42
60	2 3/8		4.5	1/6	1500	4' 11"	40	1 5/8		63-060-6140-4, 5-1500-42
60	2 3/8		4.5	1/6	2000	6' 63/4"	40	1 5/8		63-060-6140-4, 5-2000-42
60	2 3/8		4.5	1/6	3000	9' 10"	40	1 5/8		63-060-6140-4, 5-3000-42

## DTH adapters



Box thread A	Pin thread B	Diameter A		Diameter B		Length		Wrench flat		Weight approx kg	Product NO.
		mm	inch	mm	inch	mm	Foot	mm	inch		
2 3/8"API Reg	2 3/8"API Reg	77	3	77	3	140	5 1/2	65	2 5/9	4.0	642-77-1010-65-140-42
2 3/8"API Reg	2 3/8"API Reg	90	3 1/2	90	3 1/2	140	5 1/2	65	2 5/9	5.5	642-90-1010-65-140-42
2 3/8"API Reg	2 3/8"API Reg	102	4	102	4	130	5 1/8	76	3	7.8	642-102-1010-76-130-42
2 3/8"API Reg	2 3/8"API IF	90	3 1/2	90	3 1/2	144	5 5/7	65	2 5/9	5.5	642-90-1011-65-144-42
2 3/8"API Reg	2 7/8"API Reg	95	3 3/4	95	3 3/4	130	5 1/8	65	2 5/9	8.0	642-95-1020-65-130-42
2 3/8"API Reg	3 1/2"API Reg	90	3 1/2	102	4	120	4 5/7	95	3 3/4	10.5	642-90-1030-95-120-42
2 3/8"API IF	2 3/8"API Reg	90	3 1/2	90	3 1/2	164	6 1/2	65	2 5/9	6.8	642-90-1110-65-164-42
2 7/8"API Reg	2 3/8"API Reg	90	3 1/2	90	3 1/2	154	6 1/8	65	2 5/9	6.5	642-90-2010-65-154-42
2 7/8"API Reg	3 1/2"API Reg	90	3 1/2	115	4 1/2	120	4 5/7	95	3 3/4	11.0	642-90-2030-95-120-42
3 1/2"API Reg	2 3/8"API Reg	115	4 1/2	115	4 1/2	219	8 5/8	95	3 3/4	12.5	642-115-3010-95-219-42
3 1/2"API Reg	2 3/8"API IF	115	4 1/2	115	4 1/2	160	6 2/7	95	3 3/4	10.5	642-115-3011-95-160-42
3 1/2"API Reg	2 7/8"API Reg	115	4 1/2	115	4 1/2	160	6 2/7	95	3 3/4	10.8	642-115-3020-95-160-42
3 1/2"API Reg	2 7/8"API IF	115	4 1/2	115	4 1/2	160	6 2/7	95	3 3/4	10.8	642-115-3021-95-160-42
3 1/2"API Reg	3 1/2"API Reg	115	4 1/2	115	4 1/2	160	6 2/7	95	3 3/4	10.5	642-115-3030-95-160-42
3 1/2"API Reg	4 1/2"API Reg	146	5 3/4	146	5 3/4	132	5 1/6	120	4 5/7	16.5	642-146-3040-120-132-42
4 1/2"API Reg	3 1/2"API Reg	146	5 3/4	115	4 1/2	235	9 1/4	95	3 3/4	19.0	642-146-4030-95-235-42
F48X10	F42X10	59	2 3/8	59	2 3/8	203	8	40	1 5/8		642-59-6160-40-203-42
F48X10	F48X10	59	2 3/8	59	2 3/8	203	8	40	1 5/8		642-59-6161-40-203-42
F48X10	2"API Reg	59	2 3/8	59	2 3/8	203	8	40	1 5/8		642-59-6190-40-203-42













Box thread A	Box thread B	Diameter A		Diameter B		Length		Wrench flat		Weight approx kg	Product NO.
		mm	inch	mm	inch	mm	Foot	mm	inch		
2 3/8"API Reg	2 3/8"API Reg	77	3	77	3	200	7 7/8	65	2 5/9	4.5	641-77-1010-65-200-42
2 3/8"API Reg	2 3/8"API Reg	90	3 1/2	90	3 1/2	200	7 7/8	65	2 5/9	6.0	641-90-1010-65-200-42
2 3/8"API Reg	2 7/8"API Reg	90	3 1/2	90	3 1/2	225	8 7/8	65	2 5/9	6.2	641-90-1020-65-225-42
2 3/8"API Reg	3 1/2"API Reg	115	4 1/2	115	4 1/2	210	8 1/4	95	3 3/4	10.0	641-115-1030-95-210-42



Pin thread A	Pin thread B	Diameter A		Diameter B		Length		Wrench flat		Weight approx kg	Product NO.
		mm	inch	mm	inch	mm	Foot	mm	inch		
2 3/8"API Reg	2 3/8"API Reg	90	3 1/2	90	3 1/2	70	2 3/4	65	2 5/9	4.6	643-90-1010-65-70-42
2 3/8"API Reg	3 1/2"API Reg	90	3 1/2	115	4 1/2	97	3 3/4	95	3 3/4	9.0	643-90-1030-95-97-42
3 1/2"API Reg	3 1/2"API Reg	115	4 1/2	115	4 1/2	90	3 1/2	95	3 3/4	10.0	643-115-3030-95-90-42











## Shank adapter

Atlas Copco	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Atlas Copco BBC 43, BBC 44, BBC 45, BBC 100	R32	380	2.2	10	488043-32R32-10380-23
	Atlas Copco BBC 51, BBC 52, BBC 54, BBC 120	R32 T38	380 390	2.9 3.4	10 10	488051-38R32-10380-23 488051-38T38-10390-23
	Atlas Copco BBE 57	T38	538	5.6	14	488E57-44T38-14538-23
	Atlas Copco COP 125, COP 130, COP 131	T38	380	3.3	14	4125-39T38-14380-23
	Atlas Copco COP 1032HD	R32	340	3.7	-	41032HD-45R32-0340-23
		R38	340	4.4	-	41032HD-55R32-0340-23
	Atlas Copco COP 1032	R32 R35 R38 T38	550 550 550 550	5.3 5.6 5.7 5.7	- - - -	41032-45R32-0550-23 41032-45R35-0550-23 41032-45R38-0550-23 41032-45T38-0550-23
	Atlas Copco COP 1036 COP 1038HB	R32 T38	500 500	4.3 4.7	- -	41036-38R32-0500-23 41036-38T38-0500-23
		T45	500	5.3	-	41036-45T45-0500-23
	Atlas Copco COP 1038HD COP 1238	R32 R38 T38	485 485 485	4.3 4.5 4.5	- - -	41238-38R32-0485-23 41238-38R38-0485-23 41238-38T38-0485-23

## Shank adapter

Atlas Copco	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Atlas Copco OCP 1038HL	R32 T38	575 575	4.9 5.2	- - -	41038HL-38R32-0575-23 41038HL-38T38-0575-23
		T45	575	6.1	-	41038HL-45T45-0575-23
	Atlas Copco OCP 1238	R32 T38 R38 T38	500 500 485 485	4.0 4.4 4.2 4.2	- - - -	41238-38R32-0500-23 41238-38T38-0500-23 41238-38R38-0485-23 41238-38T38-0485-23
		T45	500	5.0	-	41238-45T45-0500-23
		R32 R38 T38	575 575 575	4.9 5.0 5.2	- - -	41238-38R32-0575-23 41238-38R38-0575-23 41238-38T38-0575-23
		T38 T45	575 575	5.7 6.1	- -	41238-45T38-0575-23 41238-45T45-0575-23
	Atlas Copco OCP 1432, OCP 1532, OCP 1440, OCP 1838 HD, OCP 1838 ME	R32 R38 T38	435 435 435	3.9 4.2 4.2	- - -	41432-38R32-0435-23 41432-38R38-0435-23 41432-38T38-0435-23
		R32 T38	525 525	4.8 5.0	- -	41432-38R32-0525-23 41432-38T38-0525-23
	Atlas Copco OCP 1432, OCP 1532	R32 R38	341 341	4.7 5.2	- -	41432-55R32-0341-23 41432-55R38-0341-23
	Atlas Copco OCP 1550, OCP 1838ME/HE	T38 T45 T51	525 525 525	6.2 6.4 6.8	- - -	41550-52T38-0525-23 41550-52T45-0525-23 41550-52T51-0525-23

## Shank adapter

Atlas Copco, Boart and Furukawa	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Atlas Copco CDP 1550 EX, CDP 1838 EX	T38 T45 T51	730 730 730	10.1 10.5 10.7	- - -	41550EX-60T38-0730-23 41550EX-60T45-0730-23 41550EX-60T51-0730-23
	Atlas Copco CDP 1840NE CDP 1850	T45 T51	565 565	7.2 7.4	- -	41850-52T45-0565-23 41850-52T51-0565-23
	Atlas Copco CDP 2150PG	T51	770	11.2	-	42150PG-52T51-0770-23
	Atlas Copco CDP 2160EX	T45 T51	770 770	13.2 13.3	- -	42160EX-63T45-0770-23 42160EX-63T51-0770-23
	Atlas Copco CDP 4050EX	ST68	805	89.6	-	44050EX-70ST68-0805-23
	Atlas Copco CDP 4050MUX	ST68	835	69.9	-	44050MUX-90ST68-0835-23
	Boart HD 125, HD 150, HD 160	R38 T38	495 495	5.6 5.6	- -	4HD125-45R38-0495-23 4HD125-45T38-0495-23
	Furukawa M 120, PD 200	R32 R38 T38 T38	330 350 380 446	3.6 3.8 4.0 4.3	14.3 14.3 14.3 14.3	4M120-44R32-14330-23 4M120-44R38-14350-23 4M120-44T38-14380-23 4M120-44T38-14446-23
	Furukawa PD 200R	T38 T45	484 484	4.0 4.3	14.3 14.3	4PD200R-44T38-14484-23 4PD200R-44T45-14484-23
	Furukawa HD 260, HD 300	T38 T45	655 655	7.8 7.8	16 16	4HD260-45T38-16655-23 4HD260-45T45-16655-23

## Shank adapter

Furukawa, Gardner-Denver, Ingersoll-Rand and Montabert	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Furukawa HD 609	T38 T38 T45	620 690 620	6.2 6.5 6.9	- - -	4HD609-45T38-0620-23 4HD609-45T38-0690-23 4HD609-45T45-0620-23
	Furukawa HD 612	T45	710	9.2	-	4HD612-51T45-0710-23
	Furukawa HD 712	T45	788	11.2	-	4HD712-51T45-0788-23
	Gardner-Denver PR 123	R32 R38 T38 T45	380 380 380 380	3.6 3.9 3.9 4.2	14.3 14.3 14.3 14.3	4PR123-44R32-14380-23 4PR123-44R38-14380-23 4PR123-44T38-14380-23 4PR123-44T45-14380-23
	Ingersoll-Rand URD475, URD550, VL120, EVL130, VL140, F16	R32 R38 T38 T38	330 350 380 446	3.6 3.8 4.0 4.3	14 14 14 14	4VL120-44R32-14330-23 4VL120-44R38-14350-23 4VL120-44T38-14380-23 4VL120-44T38-14446-23
	Ingersoll-Rand YH 65, YH 80	T38 T45	500 500	5.6 6.1	19 19	4YH65-45T38-19500-23 4YH65-45T45-19500-23
	Ingersoll-Rand YH 65 RP, YH 70 RP, YH 75 RP, YH 80 RP	T45	700	8	19	4YH65RP-45T45-19700-23
	Montabert HC 40	R32 R38 T38	447 447 447	3.9 4.1 4.1	- - -	4HC40-38R32-0447-23 4HC40-38R38-0447-23 4HC40-38T38-0447-23
	Montabert HC 40	R32 R38	270 320	4.1 4.4	- -	4HC40-52R32-0270-23 4HC40-55R38-0320-23





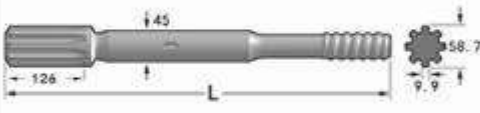



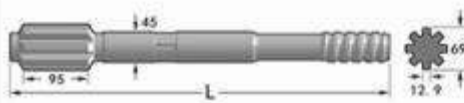
## Shank adapter

Montabert and SIG	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Montabert HC 80, HC 90, HC 100, HC 120	R32 R38 T38	440 440 440 500	5.1 5.3 5.3 5.8	- - - -	4HC80-38R32-0440-23 4HC90-38R38-0440-23 4HC100-38T38-0440-23 4HC120-38T38-0500-23
	Montabert N 100	T38	540	5.5	14	4N100-45T38-14540-23
	Montabert HC 120, HC 150	T45	490	5.9	-	4HC120-45T45-0490-23
	Montabert HC 80R, HC 120R, HC 150R	T45 T51	670 670	8.3 8.3	- -	4HC80R-51T45-0670-23 4HC120R-51T51-0670-23
	Montabert HC 200	T51 T60	640 640	13.9 14.2	- -	4HC200-60T51-0640-23 4HC200-60T60-0640-23
	SIG HEM 50, HEM 100, HEM 120	R32	340	3.7	-	4HEM50-45R32-0340-23
	SIG HEM 100, HEM 120	R38	340	4.4	-	4HEM100-55R38-0340-23
	SIG HEM 50, HEM 100, HEM 120	R32	550	5.3	-	4HEM50-45R32-0550-23
	SIG HEM 101	R32	500	4.6	-	4HEM101-38R32-0500-23

## Shank adapter

Sandvik (Tamrock)	Rock drill	Thread	Length (mm)	Weight (Kg)	Flashing (mm)	Product NO.
	Tamrock HL 300	R37	400	2.8	-	4HL300-37R37-0400-23
	Tamrock HL 300S	R32	245	2.8	-	4HL300S-45R32-0245-23
	Tamrock HLX 3	R32	324	3.8	-	4HLX3-45R32-0324-23
	Tamrock HLX 3F	R32	205	2.6	-	4HLX3F-45R32-0205-23
	Tamrock L400, L410, L500, L510, L550	R32	380	2.3	10	4L400-32R32-0380-23
	Tamrock HL 438, HL 538, HL R 438L, HL R 438T	R32 T38	380 400	3.2 3.6	12.7 12.7	4HL438-38R32-13380-23 4HL438-38T38-13400-23
	Tamrock HL 438LS, HL 438TS, HL 538, HL 538L, L 550S	R32 R38 T38 T38	450 450 455 545	4.1 4.3 4.3 4.8	- - - -	4HL538-38R32-0450-23 4HL538-38R38-0450-23 4HL538-38T38-0455-23 4HL538-38T38-0545-23
	Tamrock HL500-38, HL510-38	R32 T38	550 550	4.3 4.6	- -	4HL500-38R32-0550-23 4HL500-38T38-0550-23
	Tamrock HL 500-45, HL 510-45	R32 T38 T45	550 550 550	5.6 5.6 6.1	- - -	4HL500-45R32-0550-23 4HL500-45T38-0550-23 4HL500-45T45-0550-23

## Shank adapter

Sandvik (Tamrock)	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Tamrock HL 500S-38, HL 510S-38, HL 510B, HL 510HL	R32 R38 T38 R38 T38	460 460 460 500 500	3.9 4.1 4.1 4.3 4.3	- - - - -	4HL510B-38R32-0460-23 4HL510B-38R38-0460-23 4HL510B-38T38-0460-23 4HL510B-38R38-0500-23 4HL510B-38T38-0500-23
	Tamrock HL 500F, HL 510F	R32	350	3.6	-	4HL500F-45R32-0350-23
	Tamrock HL 550 SUPER, HL 560 SUPER, HL 510S-45	R38 T38 T45	500 500 500	5.5 5.5 5.6	- - -	4HL550-45R38-0500-23 4HL550-45T38-0500-23 4HL550-45T45-0500-23
	Tamrock HLX 5, HLX 5T	R32 R38 T38 R32 T38 T45	500 500 500 575 575 575	5.4 5.5 5.5 6.4 6.5 6.6	- - - - - -	4HLX5-45R32-0500-23 4HLX5-45R38-0500-23 4HLX5-45T38-0500-23 4HLX5-45R32-0575-23 4HLX5-45T38-0575-23 4HLX5-45T45-0575-23
	Tamrock HLX5 PE-45	R32 T38	575 575	6.3 6.4	- -	4HLX5PE-45R32-0575-23 4HLX5PE-45T38-0575-23
	Tamrock HL 600-45, HL 600S-45	T38 T45  R32 T38 T45	600 600  525 525 525	6.7 6.7  5.9 6.0 6.1	- -  - - -	4HL600-45T38-0600-23 4HL600-45T45-0600-23  4HL600-45R32-0525-23 4HL600-45T38-0525-23 4HL600-45T45-0525-23
	Tamrock HL 600-52, HL 600S-52	T45 T51	650 650	8.0 8.0	- -	4HL600-52T45-0650-23 4HL600-52T51-0650-23
	Tamrock HL 645, HL 645S	T38 T45	600 600	6.6 6.8	- -	4HL645-45T38-0600-23 4HL645-45T45-0600-23
	Tamrock HL 650-45, HL 700-45, HL 700T-45, HL 710-45, HL 800T-45	T38 T45	600 600	7.3 7.8	- -	4HL650-45T38-0600-23 4HL650-45T45-0600-23

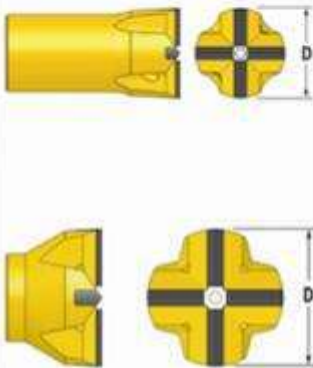

## Shank adapter

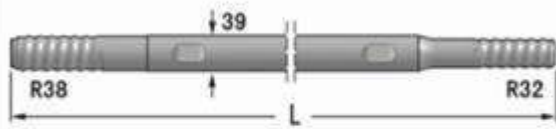

Sandvik (Tamrock)	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Tamrock HL 650-52, HL 700-52, HL 710-52, HL 800T-52	T38 T45 T51	600 600 600	8.3 8.8 8.8	- - -	4HL650-52T38-0600-23 4HL650-52T45-0600-23 4HL650-52T51-0600-23
	Tamrock HL 850 HL 850S	T45 T51	670 670	9.8 10.1	- -	4HL850-52T45-0670-23 4HL850-52T51-0670-23
	Tamrock HL 1000-52, HL 1000S-52	T45 T51 T45 T51	670 670 590 590	10.3 11.0 8.7 8.7	- - - -	4HL1000-52T45-0670-23 4HL1000-52T51-0670-23 4HL1000-52T45-0590-23 4HL1000-52T51-0590-23
	Tamrock HL 1000-60	T51 T60	670 670	13.3 13.4	- -	4HL1000-60T51-0670-23 4HL1000-60T60-0670-23
	Tamrock HL 1000-80	T60	670	20.9	-	4HL1000-80T60-0670-23
	Tamrock HL 1000S-80	ST58 ST68	635 640	18.2 19.1	- -	4HL1000S-80ST58-0635-23 4HL1000S-80ST68-0640-23
	Tamrock HL 1000 PE-52	T51	840	14.2	-	4HL1000PE-52T51-0840-23
	Tamrock HL 1000 PE-65, HL 1500 PE-65, HL 1500 T-65	T51 T60	760 760	16.8 16.9	- -	4HL1000PE-65T51-0760-23 4HL1000PE-65T60-0760-23
	Tamrock HL 1500-52, HL 1500T-52	T51	710	11.9	-	4HL1500-52T51-0710-23

## Shank adapter

Sandvik (Tamrock), Others	Rock drill	Thread	Length (mm)	Weight (Kg)	Flushing (mm)	Product NO.
	Tamrock HL 1500-60, HL 1500T-60	T51 T60	760 760	16.1 16.1	- -	4HL1500-60T51-0760-23 4HL1500-60T60-0760-23
	Tamrock HL 1500-T60	T60	760	22.9	-	4HL1500-80T60-0760-23
	Tamrock HL 1500-S80	ST58 ST68	635 635	18.8 18.9	- -	4HL1500-80ST58-0635-23 4HL1500-80ST68-0635-23
	Tamrock HL 1500-SPE90	ST58 ST68	635 635	21.8 21.9	- -	4HL1500-90ST58-0635-23 4HL1500-90ST68-0635-23
		H64	1180	35.6	-	4OTHER-70HL64-1180-23
		R32	410	3.1	-	4OTHER-35R32-410-23

## Furnace Tapping Tools

Name of product	Diameter		Tip size(mm)	Thread	Weight approx kg	Product NO
	mm	inch	HxW			
<p style="text-align: center;">Cross-type bit</p> 	45	1 3/4	7x8	R32	0.5	1222-45R32-7/8-40-24
	50	1 31/32	7x8	R32	0.6	1222-50R32-7/8-40-24
	55	2 1/8	7x8	R32	0.6	1222-55R32-7/8-40-24
	55	2 1/8	7x8	R38	0.7	1222-55R38-7/8-40-24
	55	2 1/8	7x8	T38	1.0	1222-55T38-7/8-40-24
	60	2 3/8	7x8	R32	0.7	1222-60R32-7/8-40-24
	60	2 3/8	7x8	R38	1.2	1222-60R38-7/8-40-24
	60	2 3/8	7x8	T38	1.3	1222-60T38-7/8-40-24
	65	2 1/2	7x8	R32	0.9	1222-65R32-7/8-40-24
	65	2 1/2	7x8	R38	1.3	1222-65R38-7/8-40-24
	65	2 1/2	7x8	T38	1.4	1222-65T38-7/8-40-24
	70	2 3/4	7x8	R32	1.3	1222-70R32-7/8-40-24
	70	2 3/4	7x8	T38	1.5	1222-70T38-7/8-40-24
	80	3 1/8	7x8	R32	1.7	1222-80R32-7/8-40-24
	100	3 3/4	7x8	R32	1.8	1222-100R32-7/8-40-24
	<p style="text-align: center;">Button bit</p> 	48	1 7/8	6x10	R32	0.6
51		2	6x10	R32	0.7	1431-51R32-6/10-42-53
54		2 1/8	6x11	R32	0.7	1431-54R32-6/11-42-53
57		2 1/4	6x11	R32	0.8	1431-57R32-6/11-42-53

Name of product	Length		Weight (kg)	Product NO
	mm	Foot		
<p>R38-Round39-R32</p> 	2800	9' 2"	22.7	25R39-R32/R38-2800-40
	3400	11' 2"	27.8	25R39-R32/R38-3400-40
	3600	11' 9"	29.4	25R39-R32/R38-3600-40
	4100	13' 5"	34.5	25R39-R32/R38-4100-40
	4300	14' 1"	35.3	25R39-R32/R38-4300-40
<p>T38-Round39-T38</p> 	3000	9' 8"	24.9	25R39-T38-3000-40
	3200	10' 5"	26.5	25R39-T38-3200-40
	4000	13' 1"	33.4	25R39-T38-4000-40

## Bit Wear Patterns



### GAUGE WEAR

In some materials such as hard sand stone and quartzite, the wear tends to be greater on the bit circumference. Most of the wear is on the outside buttons on the periphery, creating a tendency for bits to round off on the circumference. Thus, when the buttons are sharpened, the diameter across the gauge buttons will be less than the diameter of the bit shoulders and the bit will tend to bind in the hole. The bit shoulder circumference will have to be ground down to restore adequate clearance and avoid this binding in the holes. The bit face will also, most likely, require grinding to restore button protrusion.



### BODY WASH

When drilling in non-abrasive materials, where carbide wear is minimal, extended drilling intervals are possible. This allows for prolonged chip removal around the bits and will wear away the bit body to a greater extent than the buttons. Similar wear occurs in fractured and loose materials where excessive agitation and grinding of the materials is required for hole cleaning and to keep the hole open during retraction. To prevent tearing out buttons and button shear under these conditions, the protrusion should be reduced by scheduling grinding intervals to grind down the buttons.




### OVER DRILLING

The detrimental effects of over drilling bits may not be immediately apparent. However, an often neglected reality is that running dull bits not only slows down the drilling rates but escalates drilling costs by reducing life on the drilling tool components, the rock drills and the drill rig components. Overdrilling is also unquestionably responsible for over 90% of all premature button failures. It is a well-documented fact that premature button bit insert failures are reduced substantially when over drilling is eliminated and proper sharpening is performed.

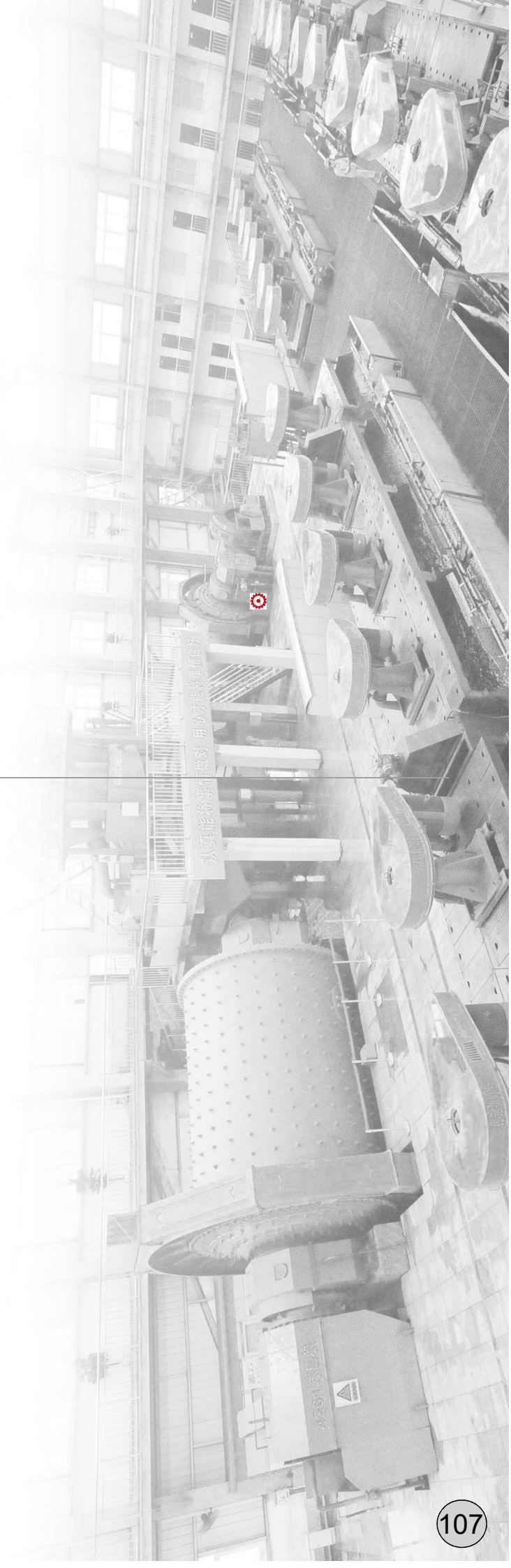
# RUBBER PRODUCTS

## Contents

-  Stator and Rotor of Flotation Machine
- 03 GF series Stator and Rotor
- 04 BF series Stator and Rotor
- 05 CLF series Stator and Rotor
- 06 XCF series Stator and Rotor
- 07 BSK series Stator and Rotor
- 08 XJ series Stator and Rotor
- 09 SF series Stator and Rotor
- 10 JJF series Stator and Rotor

### Technical Specification

Item	Unit	Index
Tensile strength $\geq$		17
Acid(base) coefficient 20% (20%NaOH)18°C x24H		0.8
Elongation $\geq$	%	450
Hardness	邵氏	55±5
Hot air aging coefficient $\geq$ 90°C x24H		0.75
Abrasion loss $\leq$	CM <sup>3</sup> /1.61km	0.7
Metals and layer adhesion $\geq$	MPa	2.5
earing permanent deformation $\leq$	%	30
Oil coefficient 20#oil 100°C x24H%	%	±10~5





GF series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Max. of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	Installed power (kw)	Power of Scraper Blade Motor (kw)	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
GF-1,1	1,1	1,2	5	1,1	1100×1100×1000	0,2-0,5	1370
GF-2	2	1,2	7,5	1,5	1400×1400×1150	0,3-1,0	1750
GF-3	3	1,2	11	1,5	1500×1850×1200	0,5-1,5	2230
GF-4	4	1,2	15	2,2	1600×2150×1250	0,5-2,0	2585
GF-6	6	1,2	22	1,5	2000×2500×1300	1,0-3,0	3300
GF-8	8	1,2	30	1,5	2200×2900×1400	1,0-4,0	4130
GF-10	10	1,2	30	1,5	2200×2900×1700	2,0-6,0	4500
GF-16	16	1,2	45	2,2	2850×3800×1700	3,0-8,0	8320
GF-20	20	1,2	45	2,2	2850×3800×2000	4,0-10,0	8670
GF-24	24	1,2	55	2,2	3150×4150×2000	5,0-12,0	8970
GF-28	28	1,2	55	1,5	2150×4150×2300	5,0-14,0	9480
GF-42	42	1,2	75	3	3600×4800×2650	8,0-20,0	19400



BF series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Max. of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	Installed power (kw)	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
BF-1,2	1,2	1,0-1,10	5,5/4	1050×1150×1100	0,6-1,2	1370
BF-2	2	1,0-1,10	7,5	1400×1450×1120	1,0-2,0	1750
BF-2,8	2,8	0,9-1,10	11	1650×1650×1150	1,4-3,0	2130
BF-4	4	0,9-1,10	15	1900×2000×1200	2,4-4,0	2585
BF-6	6	0,9-1,10	18,5	2200×2350×1300	3,0-6,0	3300
BF-8	8	0,9-1,10	22/30	2250×2850×1400	4,0-8,0	4130
BF-10	10	0,9-1,10	22/30	2250×2850×1700	5,0-10	4500
BF-16	16	0,9-1,10	37/45	2850×3800×2000	8,0-16	8320
BF-20	20	0,9-1,10	37/45	2850×3800×2000	10-20	8670
BF-24	24	0,9-1,10	45	3150×4150×2000	12-24	8970



## CLF series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

### Technical Specification

Model	CLF-2	CLF-4	CLF-8	CLF-16	CLF-30	CLF-40
Effective Volume (m <sup>3</sup> )	2	4	8	16	30	40
Max of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	1.5	1.5	1.5	1.5	1.5	1.5
Power of Spindle Motor (Kw)	7.5	15	22	45	75	75
DC Tank	5.5	11	15	37	55	
Speed of Spindle Motor r/min	790	730	790	730	740	740
DC Tank	790	730	730	730	740	
Scraper Motor Power (Kw)	1.5	1.5	1.5	1.5	1.5	1.5
Scraper Speed r/min	16	16	16	16	16	16
Dimensions of Cell (L×W×H, mm)	1200×1600×1250	1600×2100×1500	1900×2500×1950	2500×3200×2400	3300×4000×3000	φ4200×3900
Capacity (m <sup>3</sup> /min)	0.5-2	1-4	1-6	4-16	7-30	8-38
Suction Tank	1591	3002	5168	9230	17010	23690
DC Tank	1481	2702	4654	8970	15950	



## XCF series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Air Pressure of Blower (kPa)	Max Air Inflation Volume (m <sup>3</sup> /m <sup>2</sup> .min)	Installed power	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
XCF-1	1	>11	2	4	1000×1000×1100	0.2-0.5	920
XCF-2	2	>12	2	5.5	1300×1300×1250	0.5-1	1158
XCF-3	3	>14	2	7.5	1600×1600×1400	0.7-1.5	2172
XCF-4	4	>15	2	11	1800×1800×1500	1-2	2375
XCF-6	6	>17	2	18.5	2050×2050×1750	1-3	3545
XCF-8	8	>19	2	22	2200×2200×1950	2-4	4142
XCF-10	10	>20	2	30	2400×2400×2100	3-5	4894
XCF-16	16	>23	2	37	2800×2800×2400	4-8	6928
XCF-20	20	>25	2	45	3000×3000×2700	5-10	9200
XCF-24	24	>27	2	55	3100×3100×2900	6-12	10819
XCF-30	30	>31	2	55	3500×3500×3025	7-15	14810
XCF-40	40	>32	2	75	3800×3800×3400	8-19	18790
XCF-50	50	>33	2	90	4400×4400×3500	10-25	22000
XCF-70	70	>35	2	90	5100×5100×3800	13-50	26200
XCF-100	100	>40	2	132	5900×5900×4200	20-60	33500
XCF-130	130	>45	2	160	6420×6620×4720	20-60	36200
XCF-160	160	>48	2	160	6850×7020×5020	20-60	42500



BSK series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Impeller Motor Power (Kw)	Scraper Motor Power (Kw)	Scraper Speed r/min	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
BSK-4	4	7.5	1.1	17	1850×1850×1500	0.5-4	2200
BSK-8	8	15	1.1	17	2250×2250×1700	1.0-8	4380
BSK-16	16	30	1.1	17	2950×2720×2382	2.0-15	9230
BSK-24	24	37	1.1	17	3200×3200×2800	4.0-24	9546
BSK-38	38	45	1.1	17	3600×3600×3400	10-38	12687



XJ series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Power of Spindle Motor (Kw)	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (Kg)
XJ-1.1	1.1	5.5	1100×1100×1000	0.6-1.6	1450
XJ-2.8	2.8	11	1750×1600×1100	1.5-3.5	2340
XJ-5.8	5.8	22	2200×2200×1200	3.0-7.0	3560
XJ-8	8	22/30	2600×2600×1300	4.0-8.5	4350
XJ-10	10	22/30	2900×2700×1400	5.0-10.0	4960
XJ-16	16	30	2400×3100×1600	8.0-13.5	8540
XJ-20	20	37	3600×3400×1700	10.0-17.0	8720



## SF series Stator and Rotor of flotation machine



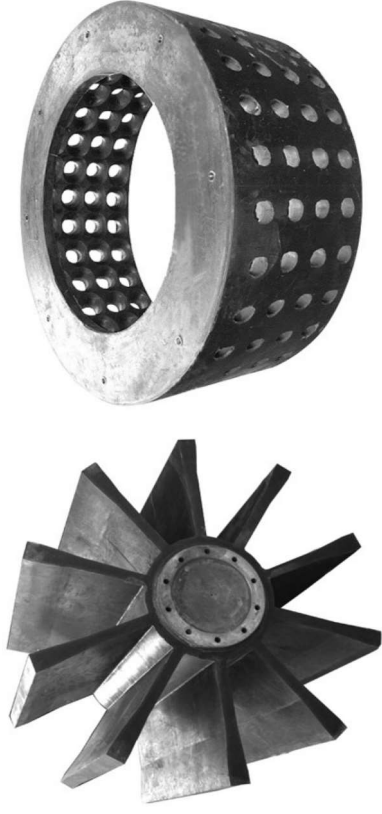
The materials of this product are: Polyurethane, Rubber, Nylon

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Max. of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	Impeller Motor Power (kw)	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
SF-1.2	1.2	1-1.1	5.5	1100×1100×1100	0.6-1.2	1450
SF-2.8	2.8	0.9-1.1	11	1700×1600×1150	1.4-3.0	2210
SF-4	4	0.9-1.1	15	2000×1200×2720	2.0-4.0	2720
SF-8	8	0.9-1.1	30	2200×2900×1400	4.0-8.0	4280
SF-10	10	0.9-1.1	30	2200×2900×1700	5.0-10	4800
SF-16	16	0.9-1.1	37	2900×3800×1700	8.0-16	8430
SF-20	20	0.9-1.1	45	2900×3800×2000	10.0-20	8810
SF-24	24	0.9-1.1	45	3100×4200×2000	12.0-24	8910
SF-30	30	0.9-1.1	55	3400×4500×2100	15-30	14130
SF-40	40	0.9-1.1	75	3950×4750×2250	18-38	17370
SF-50	50	0.9-1.1	90	4400×4900×2400	23-46	23410



## JJF series Stator and Rotor of flotation machine



The materials of this product are: Polyurethane, Rubber, Nylon

### Technical Specification

Model	Effective Volume (m <sup>3</sup> )	Max. of Air Filling (m <sup>3</sup> /m <sup>2</sup> .min)	Installed power (Kw)	Scraper Speed r/min	Dimensions of Cell (L×W×H, mm)	Capacity (m <sup>3</sup> /min)	Weight of Single Cell (kg)
JJF-1	1	1	5.5	18	1100×1100×1000	0.3-1	1480
JJF-2	2	1	7.5	18	1400×1400×1150	0.5-2	1960
JJF-3	3	1	11	18	1500×1850×1200	1-3	2430
JJF-4	4	1	11	16	1600×2150×1250	2-4	2790
JJF-8	8	1	22	16	2200×2900×1400	4-8	4420
JJF-10	10	1	22	16	2200×2900×1700	4-10	4830
JJF-16	16	1	37	16	2850×3800×1700	5-16	8610
JJF-20	20	1	37	16	2850×3800×2000	5-20	8950
JJF-24	24	1	45	16	3150×4150×2000	7-24	9180
JJF-28	28	1	45	16	3150×4150×2300	7-28	9800
JJF-42	42	1	75	16	3600×4800×2650	12-42	21000

All Products > Underground

# UNDERGROUND

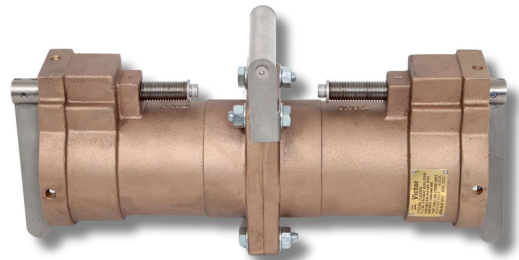
## BROWSE BY CATEGORY

Cable  
Underground  
Opencast  
Other  
Services



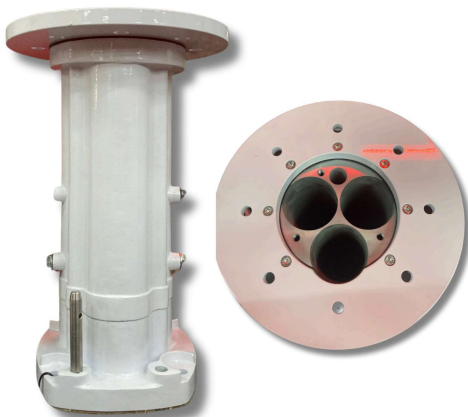
### 250A SOCKET REPAIR KIT

Underground



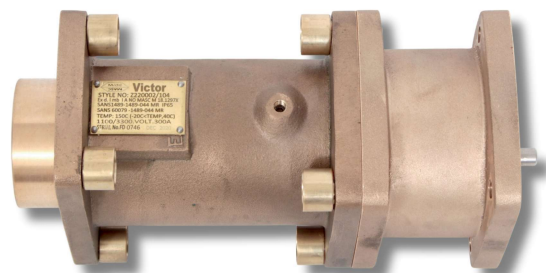
### 425A RESTRAINED COUPLER

Underground



### 22KV ADAPTOR

Underground



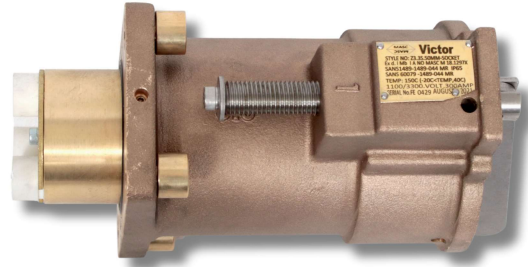
### 3.3KV BOLTED SOCKET

Underground



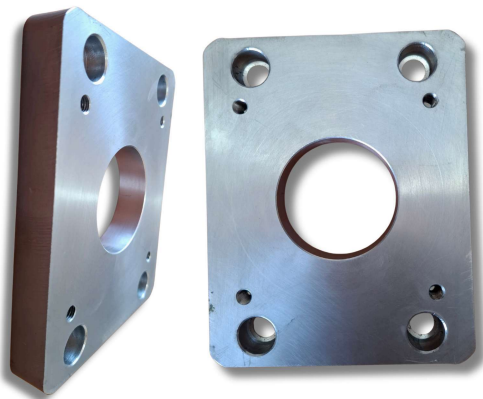
### 150A RESTRAINED PLUG

Underground



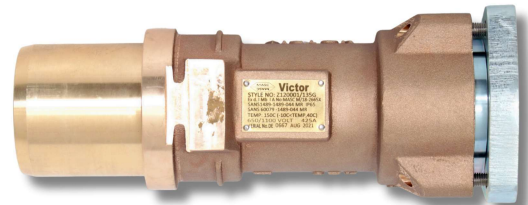
### 3.3KV RESTRAINED SOCKET

Underground



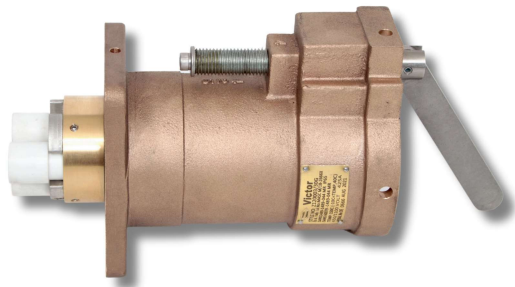
### 60A-250A ADAPTOR PLATE

Underground



### 425A RESTRAINED PLUG (GRUB SCREW CABLE CONNECTIONS)

Underground



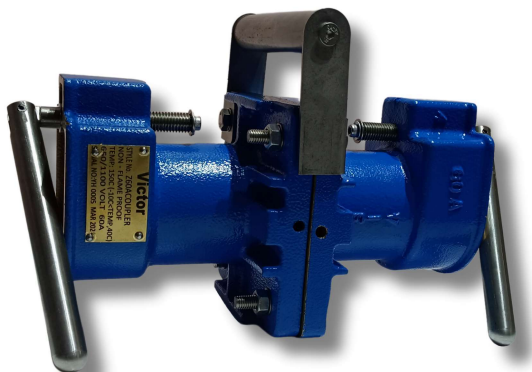
### 425A RESTRAINED SOCKET (GRUB SCREW CABLE CONNECTIONS)

Underground



### 425A PLUG REPAIR KIT

Underground



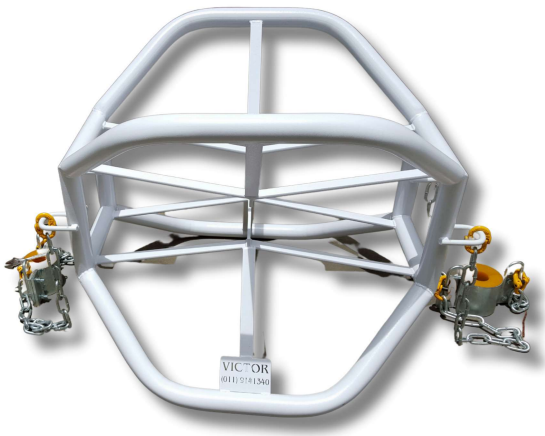
### 60A RESTRAINED COUPLER

Underground



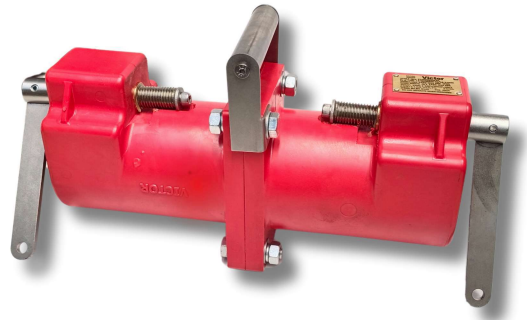
### 3.3KV ADAPTOR C/W TAILS

Underground



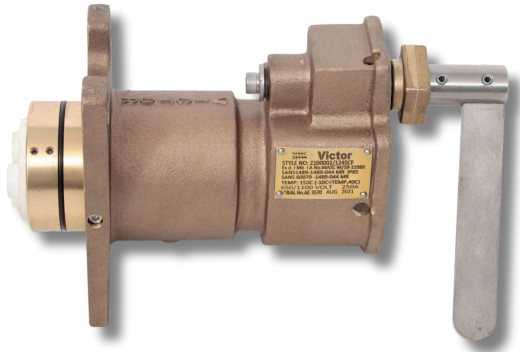
## UNDERGROUND SKID

Underground



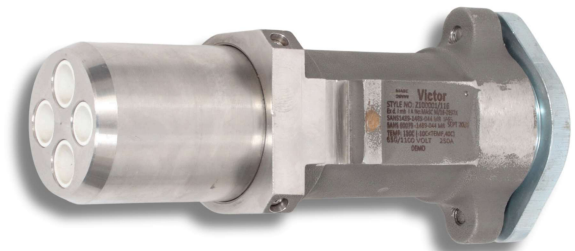
## 250A POLYURETHANE RESTRAINED COUPLER

Underground



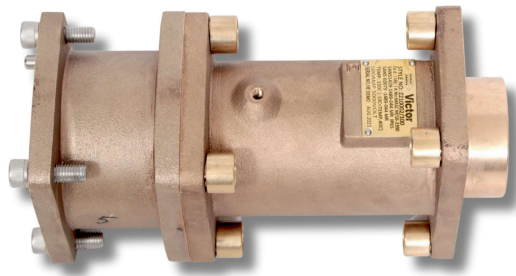
## 250A RESTRAINED SOCKET

Underground



## 250A STAINLESS STEEL RESTRAINED PLUG

Underground

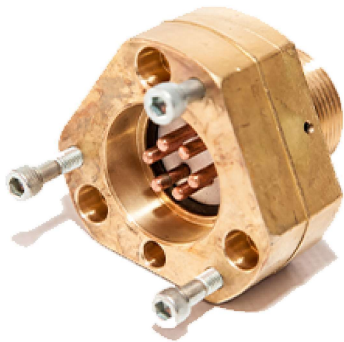


### 5KV BOLTED SOCKET

Underground

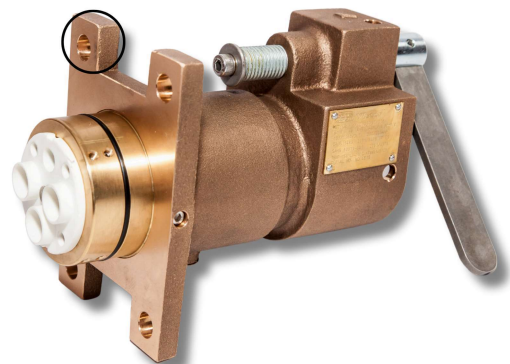
### 30A PLUG

Underground



### MPC FREE IN-LINE SOCKET

Underground



### 250A RESTRAINED SOCKET WITH SHROUDS

Underground



### 250A BRASS RESTRAINED TEST PLUG

Underground



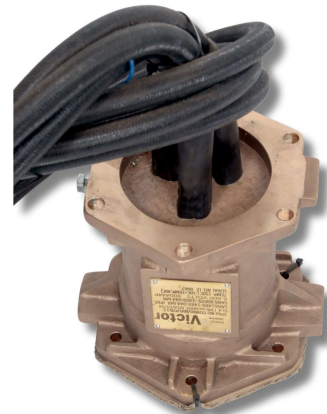
### 3.3KV RESTRAINED DUMMY PLUG

Underground



### 250A PLUG REPAIR KIT

Underground



### 6.6KV BOLTED ADAPTOR C/W TAILS

Underground



### 3.3KV RESTRAINED PLUG

Underground



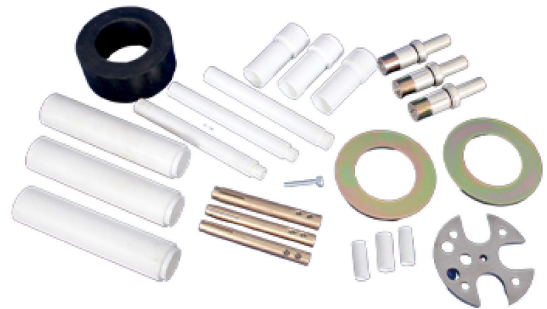
### 6.6KV BOLTED COMPOSITE HALF-COUPLER

Underground



### 250A RESTRAINED DUMMY PLUG

Underground



### 3.3KV RESTRAINED PLUG KITS

Underground



### 6.6KV PHASE PIN INTERCONNECT SET

Underground



### 22KV INTERCONNECTS

Underground



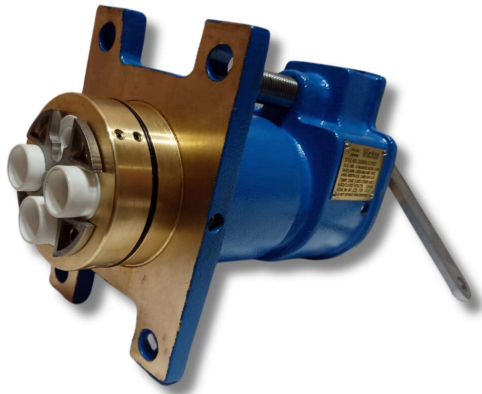
### 425A PLUG COVER

Underground



### 425A PLUG SPARES (CRIMP)

Underground



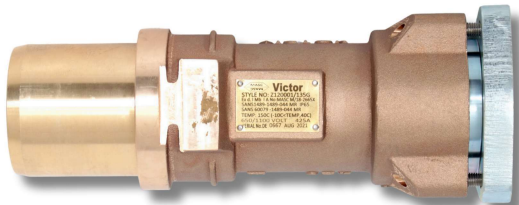
### 150A RESTRAINED SOCKET

Underground



### 12KV BOLTED ADAPTOR C/W TAILS

Underground



### 425A RESTRAINED PLUG (CRIMPED CABLE CONNECTIONS)

Underground



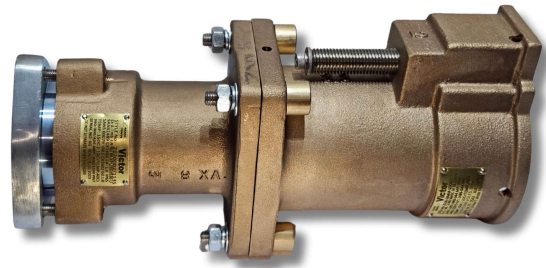
### 250A PLUG REPAIR KITS

Underground



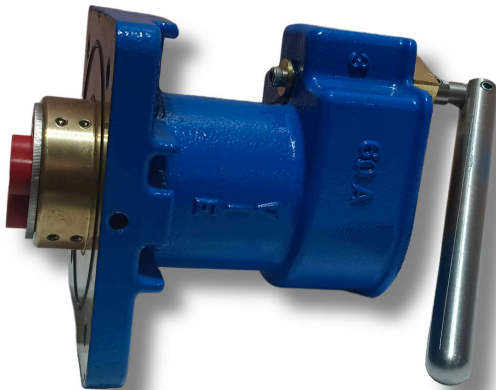
### 60A RESTRAINED PLUG

Underground



### 3.3KV RESTRAINED SOCKET C/W VX8 ADAPTOR

Underground



### 60A RESTRAINED SOCKET

Underground



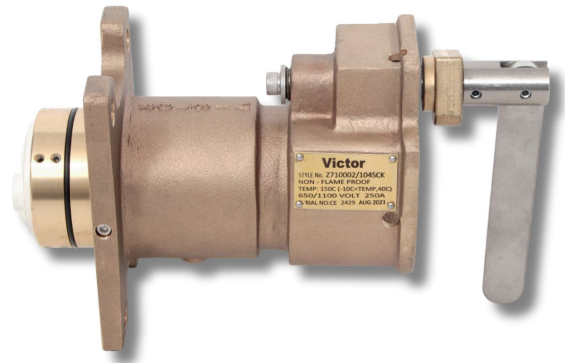
### 3.3KV CM BOXES

Underground



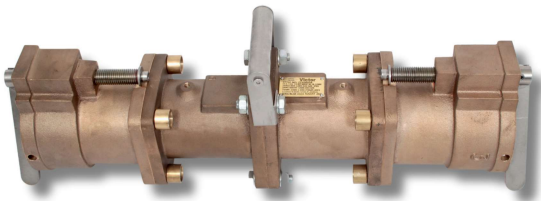
### 3.3KV PLUG REPAIR KIT

Underground



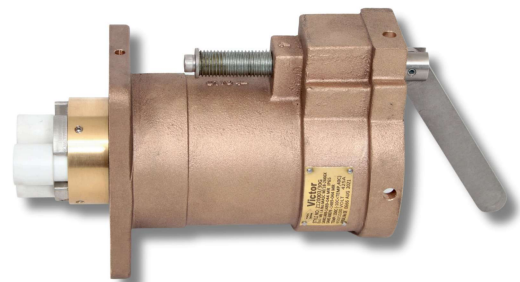
### 250A NON-FLAMEPROOF RESTRAINED SOCKET

Underground



### 3.3KV RESTRAINED COUPLER

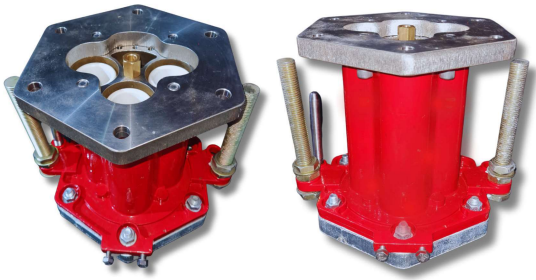
Underground



### 425A RESTRAINED SOCKET (CRIMPED CABLE CONNECTIONS)

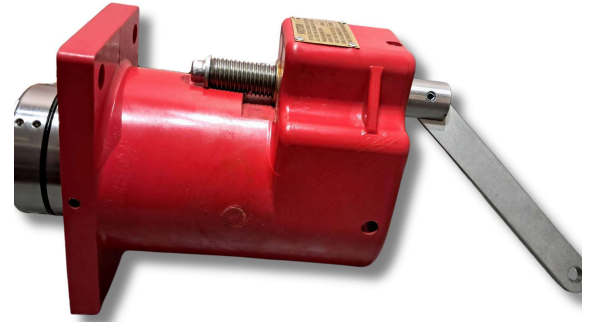
Underground





### 12KV ADAPTOR

Underground



### 250A POLYURETHANE RESTRAINED SOCKET

Underground



### 425A PLUG SPARES (GRUB SCREW)

Underground



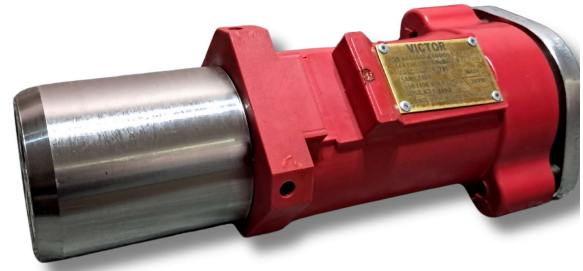
### 12KV BOLTED HALF-COUPLER

Underground



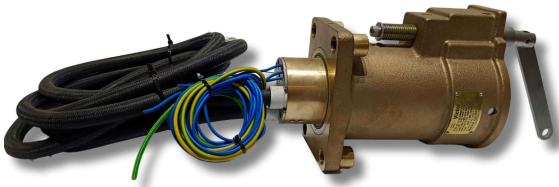
### 12KV INTERCONNECTS

Underground



### 250A POLYURETHANE RESTRAINED PLUG

Underground



### 3.3KV RESTRAINED SOCKET C/W TAILS

Underground



### 5KV BOLTED PLUG

Underground



### 3.3KV BOLTED ADAPTOR

Underground



### 250A PLUG COVER

Underground



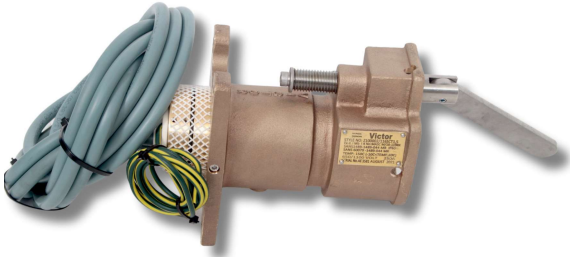
### 425A RESTRAINED TEST PLUG

Underground



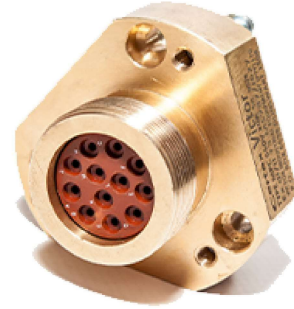
### FLAMEPROOF PHONE WITH FLAME PROOF SIREN

Underground



### 250A RESTRAINED SOCKET C/W TAILS

Underground



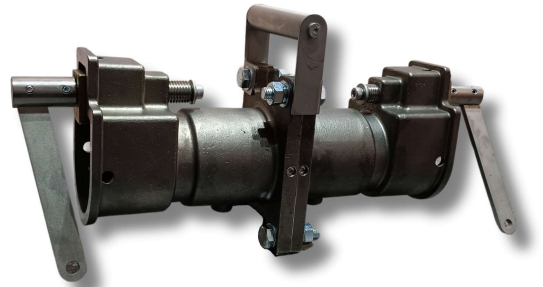
### MPC FIXED PLUG

Underground



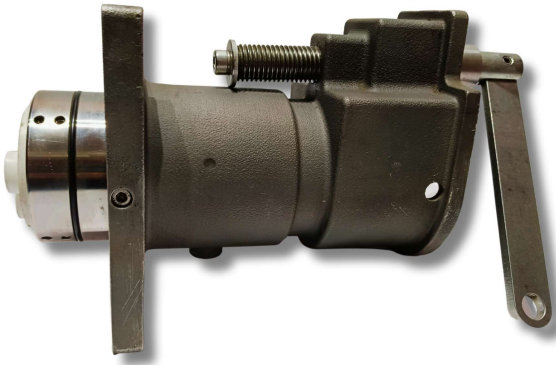
### 250A PLUG SCREW TYPE

Underground



### 250A STAINLESS STEEL RESTRAINED COUPLER

Underground



**250A STAINLESS STEEL RESTRAINED SOCKET**

Underground



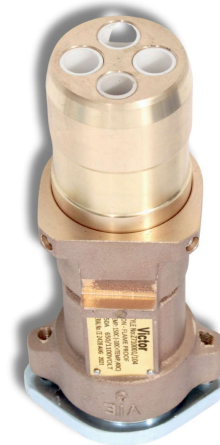
**3.3KV PLUG COVER**

Underground



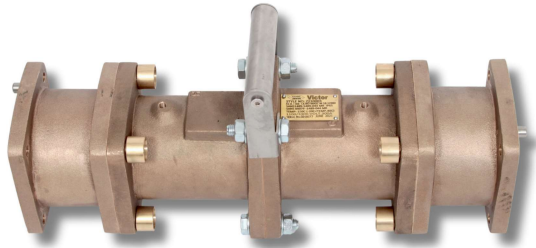
**8 PIN PLUG**

Underground



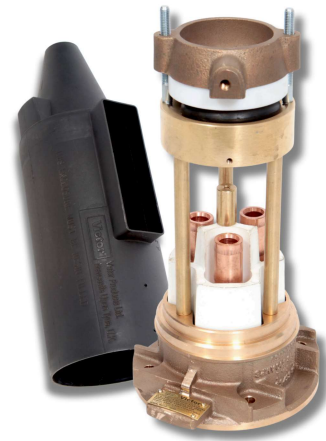
**250A NON-FLAMEPROOF RESTRAINED PLUG**

Underground



### 3.3KV BOLTED COUPLER

Underground



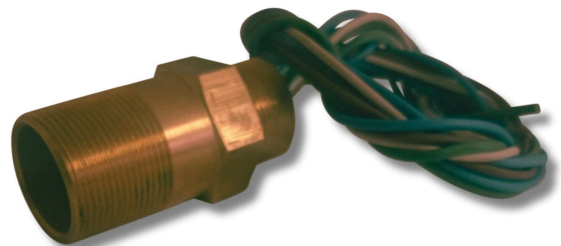
### 3.3KV HALF-COUPLER & ADAPTOR (BOLTED)

Underground



### PHASE ROTATION TEST PLUG

Underground



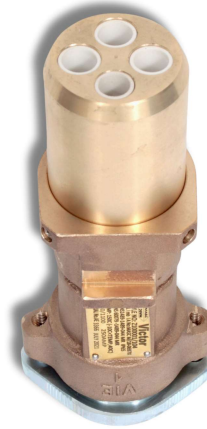
### 8 PIN SOCKET

Underground



### 3.3KV RESTRAINED TEST PLUG

Underground



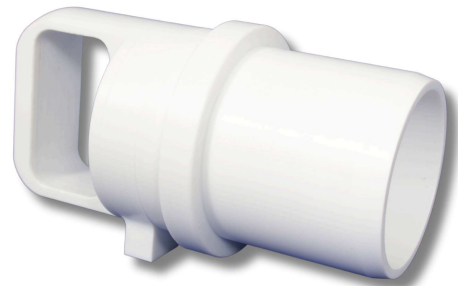
### 250A BRASS RESTRAINED PLUG

Underground



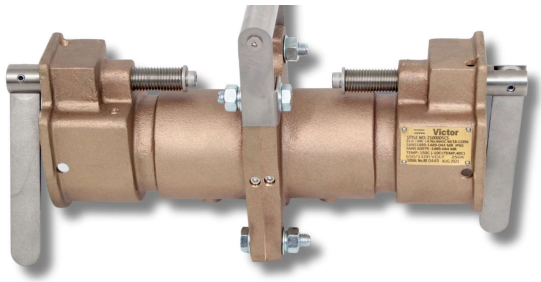
### 250A COUPLER REPAIR KIT

Underground



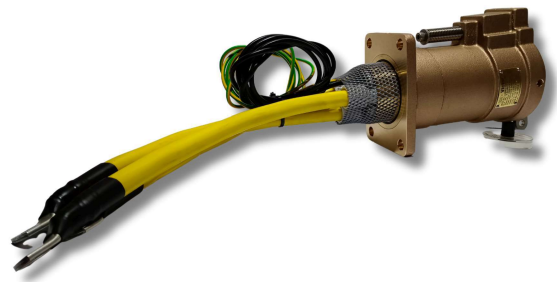
### 425A RESTRAINED DUMMY PLUG

Underground



### 250A RESTRAINED COUPLER

Underground



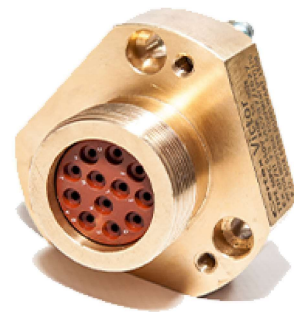
### 425A RESTRAINED SOCKET C/W TAILS

Underground



### 6.6KV BOLTED ADAPTOR

Underground



### MPC FREE IN-LINE PLUG

Underground

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Item Code	Bar Code	Item Description	Quantity
FLBHYD4620	6009710007631	BIODEGRADABLE HYDRAULIC 46 20 L	
<b>FLSLC03</b>	<b>6009710005828</b>	<b>SILICONE SPRAY LUBRICANT 6X300 ML</b>	
<b>FL4STRGEN1</b>	<b>6009710006535</b>	<b>4 STROKE GENERATOR OIL 12X1 L</b>	
FLS4STR05	6009880774654	4 STROKE SYN 20X500 ML	
FLS4STR1	6009880774623	4 STROKE SYN 12X1 L	
FLS4STR5	6009880774630	4 STROKE SYN 4X5 L	
FLS4STR20	6009880774647	4 STROKE SYN 20 L	
FL50ANTBL1	6009880774692	ANTIFREEZE 50% BLUE 12X1 L	
FL50ANTBL5	6009710001639	ANTIFREEZE 50% BLUE 4X5 L	
FL50ANTBL20	6009710001752	ANTIFREEZE 50% BLUE 20 L	
FL50ANTBL210	6009710002148	ANTIFREEZE 50% BLUE 200 L	
FL50ANTGR1	6009880774685	ANTIFREEZE 50% GREEN 12X1 L	
FL50ANTGR5	6009710001622	ANTIFREEZE 50% GREEN 4X5 L	
FL50ANTGR20	6009710001769	ANTIFREEZE 50% GREEN 20 L	
FL50ANTGR210	6009710002834	ANTIFREEZE 50% GREEN 200 L	
FL50ANTLL1	6009710001820	ANTIFREEZE 50% LONG LIFE 12X1 L	
FL50ANTLL5	6009710001837	ANTIFREEZE 50% LONG LIFE 4X5 L	
FL50ANTLL20	6009710000243	ANTIFREEZE 50% LONG LIFE 20 L	
FL50ANTLL210	6009710000250	ANTIFREEZE 50% LONG LIFE 200 L	
FL50ANTPK210	6009710002438	ANTIFREEZE 50% PINK 200 L	
FL50ANTRD1	6009880774708	ANTIFREEZE 50% RED 12X1 L	
FL50ANTRD5	6009710001646	ANTIFREEZE 50% RED 4X5 L	
FL50ANTRD20	6009710001776	ANTIFREEZE 50% RED 20 L	
FL50ANTRD210	6009710004135	ANTIFREEZE 50% RED 200 L	
FL50ANTYE1	6009710001882	ANTIFREEZE 50% YELLOW 12X1 L	
FL50ANTYE5	6009710001899	ANTIFREEZE 50% YELLOW 4X5 L	

FL50ANTYE20	6009710001905	ANTIFREEZE 50% YELLOW 20 L	
FL50ANTYE210	6009880564903	ANTIFREEZE 50% YELLOW 200 L	
FL50ANTYE1000	6009710007860	ANTIFREEZE 50% YELLOW 1000 L	
FL95ANTBL1	6009710002735	ANTIFREEZE ULTIMATE 95% BLUE 12X1 L	
FL95ANTBL20	6009710002759	ANTIFREEZE ULTIMATE 95% BLUE 20 L	
FL95ANTBL210	6009710003183	ANTIFREEZE ULTIMATE 95% BLUE 200 L	
FL95ANTBL5	6009710002742	ANTIFREEZE ULTIMATE 95% BLUE 4X5 L	
FL95ANTGR1	6009710002766	ANTIFREEZE ULTIMATE 95% GREEN 12X1 L	
FL95ANTGR20	6009710002780	ANTIFREEZE ULTIMATE 95% GREEN 20 L	
FL95ANTGR210	6009710004388	ANTIFREEZE ULTIMATE 95% GREEN 200 L	
FL95ANTGR5	6009710002773	ANTIFREEZE ULTIMATE 95% GREEN 4X5 L	
FL95ANTRD1	6009710002704	ANTIFREEZE ULTIMATE 95% RED 12X1 L	
FL95ANTRD20	6009710002728	ANTIFREEZE ULTIMATE 95% RED 20 L	
FL95ANTRD210	6009710004869	ANTIFREEZE ULTIMATE 95% RED 200 L	
FL95ANTRD5	6009710002711	ANTIFREEZE ULTIMATE 95% RED 4X5 L	
FL95ANTYE1	6009710002797	ANTIFREEZE ULTIMATE 95% YELLOW 12X1 L	
FL95ANTYE20	6009710002810	ANTIFREEZE ULTIMATE 95% YELLOW 20 L	
FL95ANTYE5	6009710002803	ANTIFREEZE ULTIMATE 95% YELLOW 4X5 L	
FLDX205	6009801478067	ATF DX II 20X500 ML	
FLDX25	6009801478210	ATF DX II 4X5 L	
FLDX220	6009801478593	ATF DX II 20 L	
FLDX2210	6009880564835	ATF DX II 200 L	
FLDX21000	6009710001011	ATF DX II 1000 L	
<b>FLDX305</b>	<b>6009801478937</b>	<b>ATF DX III 20X500 ML</b>	
<b>FLDX35</b>	<b>6009801478944</b>	<b>ATF DX III 4X5 L</b>	
FLDX3CL20	6009710005170	ATF DX III CLEAR 20 L	
FLDX320	6009801478609	ATF DX III 20 L	
FLDX3210	6009880564842	ATF DX III 200 L	
FLDX3CL05	6009710002490	ATF DX III CLEAR 20X500 ML	
FLDX3CL5	6009710004616	ATF DX III CLEAR 4X5 L	
<b>FLSDX35</b>	<b>6009710001059</b>	<b>ATF DX III SYN 4X5 L</b>	
FLSDX320	6009710001035	ATF DX III SYN 20 L	
FLSDX3210	6009710001042	ATF DX III SYN 200 L	
FLSDX3210T	6009710007150	ATF DX III SYN 210 L	
<b>FLDX605</b>	<b>6009710006108</b>	<b>ATF DX VI 20X500 ML</b>	

FLDX65	6009710006115	ATF DX VI 4X5 L	
FLDX620	6009710006894	ATF DX VI 20 L	
FL150SN210	6009710001462	BASE OIL 150 SN 200 L	
FL500SN210	6009880774289	BASE OIL 500 SN 200 L	
FLBRAKE320	6009880564859	BRAKE FLUID DOT 3 20 L	
FLBRAKE302	6009801478081	BRAKE FLUID DOT 3 25X200 ML	
FLBRAKE305	6009801478142	BRAKE FLUID DOT 3 20X500 ML	
FLBRAKE35	6009801478098	BRAKE FLUID DOT 3 4X5 L	
FLBRAKE402	6009801478128	BRAKE FLUID DOT 4 25X200 ML	
FLBRAKE405	6009801478104	BRAKE FLUID DOT 4 20X500 ML	
FLBRAKE45	6009801478203	BRAKE FLUID DOT 4 4X5 L	
FLBRAKE420	6009880564873	BRAKE FLUID DOT 4 20 L	
FLBRAKE4210	6009880564880	BRAKE FLUID DOT 4 200 L	
<b>FLBRAKE5105</b>	<b>6009710005873</b>	<b>BRAKE FLUID DOT 5.1 20X500 ML</b>	
<b>FLBRAKE515</b>	<b>6009710005866</b>	<b>BRAKE FLUID DOT 5.1 4X5 L</b>	
FLCAL20	6009710002469	CALIBRATION FLUID 20 L	
FLCUT100TD210	6009710002315	CHAINSAW CUTTERBAR 100 TD 200 L	
<b>FLCUT150TD1</b>	<b>6009880564088</b>	<b>CHAINSAW CUTTERBAR 150 TD 12X1 L</b>	
FLCUT150TD20	6009801478647	CHAINSAW CUTTERBAR 150 TD 20 L	
FLCUT150TD210	6009880564958	CHAINSAW CUTTERBAR 150 TD 200 L	
FLCUT150TD5	6009880564002	CHAINSAW CUTTERBAR 150 TD 4X5 L	
FLCHEM20	6009880564545	CHEMSOL GP 20 L	
FLCHEM210	6009880564552	CHEMSOL GP 200 L	
FLCHEM5	6009880774456	CHEMSOL GP 4X5 L	
FLCIR10020	6009710001653	CIRCULATING OIL 100 20 L	
FLCIR2201000	6009710004401	CIRCULATING OIL 220 1000 L	
FLCIR22020	6009710002025	CIRCULATING OIL 220 20 L	
FLCIR220210	6009710004715	CIRCULATING OIL 220 200 L	
FLCIR3220	6009880774500	CIRCULATING OIL 32 20 L	
<b>FLCIT5</b>	<b>6009710001363</b>	<b>CITRONELLA ORANGE 4X5 L</b>	
<b>FLLAMP5</b>	<b>6009710001476</b>	<b>ORIGINAL LAMP OIL 4X5 L</b>	
FLCOMP10020	6009710001103	COMPRESSOR 100 20 L	
FLCOMP3220	6009710001110	COMPRESSOR 32 20 L	
FLCOMP32210	6009710002476	COMPRESSOR 32 200 L	
FLCOMP461000	6009710002483	COMPRESSOR 46 1000 L	

FLCOMP461	6009880564095	COMPRESSOR 46 12X1 L	
FLCOMP4620	6009880564996	COMPRESSOR 46 20 L	
FLCOMP46210	6009880564767	COMPRESSOR 46 200 L	
FLCOMP465	6009880564040	COMPRESSOR 46 4X5 L	
FLCOMP681	6009710001127	COMPRESSOR 68 12X1 L	
FLCOMP6820	6009880774463	COMPRESSOR 68 20 L	
FLCOMP68210	6009710001141	COMPRESSOR 68 200 L	
FLCOMP6805	6009710001134	COMPRESSOR 68 20X500 ML	
FLCOMP685	6009710001158	COMPRESSOR 68 4X5 L	
<b>FLCVT05</b>	<b>6009801478692</b>	<b>CVT OIL 20X500 ML</b>	
<b>FLCVT1</b>	<b>6009801478708</b>	<b>CVT OIL 12X1 L</b>	
<b>FLCVT5</b>	<b>6009801478715</b>	<b>CVT OIL 4X5 L</b>	
FLCVTRD05	6009710006665	CVT RED 20X500 ML	
FLCVTRD1	6009710006597	CVT RED 12X1 L	
FLCVTRD5	6009710006603	CVT RED 4X5 L	
FLDRAW1205	6009710008300	DRAW CUTTING OIL 120 4X5L	
FLDRAW120210	6009710001172	DRAW CUTTING OIL 120 200 L	
<b>FLDSG1</b>	<b>6009710002643</b>	<b>DUAL CLUTCH TRANS-FLUID 12X1 L</b>	
<b>FLDSG5</b>	<b>6009710001813</b>	<b>DUAL CLUTCH TRANS-FLUID 4X5 L</b>	
FLLEC120	6009710002629	ELECTRICAL CLEANER TYPE 1 20 L	
FLLEC320	6009880564248	ELECTRICAL CLEANER TYPE 3 20 L	
FLLEC3210	6009710002537	ELECTRICAL CLEANER TYPE 3 200 L	
FLNGNSB1000	6009710003091	ENG CLEANER SOL/BASE 1000 L	
FLNGNSB20	6009880774425	ENG CLEANER SOL/BASE 20 L	
FLNGNSB210	6009710001370	ENG CLEANER SOL/BASE 200 L	
FLNGNSB05	6009801478906	ENG CLEANER SOL/BASE 20X500 ML	
FLNGNSB5	6009801478913	ENG CLEANER SOL/BASE 4X5 L	
FLNGNWB20	6009880774432	ENG CLEANER WAT/BASE 20 L	
FLNGNWB05	6009801478883	ENG CLEANER WAT/BASE 20X500 ML	
FLNGNWB5	6009801478890	ENG CLEANER WAT/BASE 4X5 L	
<b>FLNFLSH0375</b>	<b>6009710004586</b>	<b>ENGINE FLUSH 15X375 ML</b>	
FLE7590GL405	6009710001394	EP 75W90 GL 4 SEMI-SYN 20X500 ML	
<b>FLE7590GL45</b>	<b>6009880564255</b>	<b>EP 75W90 GL 4 SEMI-SYN 4X5 L</b>	
FLE7590GL420	6009880564262	EP 75W90 GL 4 SEMI-SYN 20 L	
FLE7590GL4210	6009880564279	EP 75W90 GL 4 SEMI-SYN 200 L	

<b>FLS7590GL505</b>	<b>6009710001400</b>	<b>EP 75W90 GL 5 SYN 20X500 ML</b>	
<b>FLS7590GL55</b>	<b>6009880564286</b>	<b>EP 75W90 GL 5 SYN 4X5 L</b>	
FLS7590GL520	6009880564293	EP 75W90 GL 5 SYN 20 L	
FLS7590GL5210	6009880564309	EP 75W90 GL 5 SYN 200 L	
FL80WGL420	6009710002452	EP 80W GL 4 20 L	
<b>FL8090GL405</b>	<b>6009710004722</b>	<b>EP 80W90 GL 4 20X500 ML</b>	
<b>FL8090GL45</b>	<b>6009710004753</b>	<b>EP 80W90 GL 4 4X5 L</b>	
FL8090GL420	6009801478562	EP 80W90 GL 4 20 L	
FL8090GL4210	6009880564422	EP 80W90 GL 4 200 L	
FL8090GL41000	6009710007341	EP 80W90 GL4 1000 L	
FL8090GL505	6009801478159	EP 80W90 GL 5 20X500 ML	
FL8090GL55	6009801478319	EP 80W90 GL 5 4X5 L	
FL8090GL520	6009801478579	EP 80W90 GL 5 20 L	
FL8090GL5210	6009880564828	EP 80W90 GL 5 200 L	
FL85140GL505	6009710004418	EP 85W140 GL 5 20X500 ML	
FL85140GL55	6009880564033	EP 85W140 GL 5 4X5 LTR	
FL85140GL520	6009801478586	EP 85W140 GL 5 20 L	
FL85140GL5210	6009880564989	EP 85W140 GL 5 200 L	
FL85140GL5LS20	6009880564354	EP 85W140 GL 5 LTD SLIP 20 L	
FL85140GL5LS210	6009880564361	EP 85W140 GL 5 LTD SLIP 200 L	
FL85140GL5LS5	6009880564347	EP 85W140 GL 5 LTD SLIP 4X5 L	
FL90GL420	6009801478999	EP 90 GL 4 20 L	
FL90GL4210	6009880564811	EP 90 GL 4 200 L	
FL90GL405	6009801478043	EP 90 GL 4 20X500 ML	
FL90GL45	6009801478425	EP 90 GL 4 4X5 L	
FL90GL520	6009880774548	EP 90 GL 5 20 L	
FL90GL5210	6009710000431	EP 90 GL 5 200 L	
FL90GL55	6009710000448	EP 90 GL 5 4X5 L	
FL90GL5LS20	6009880564323	EP 90 GL 5 LTD SLIP 20 L	
FL90GL5LS210	6009880564330	EP 90 GL 5 LTD SLIP 200 L	
FL90GL5LS5	6009880564316	EP 90 GL 5 LTD SLIP 4X5 L	
FLADBL20	6009710003060	GO-BLUE 20 L (ADD BLUE)	
FLADBL210	6009710003077	GO-BLUE 200 L (ADD BLUE)	
<b>FLADBL5</b>	<b>6009710003039</b>	<b>GO-BLUE 4X5 L (ADD BLUE)</b>	
FLHEAT3220	6009710000493	HEAT TRANSFER 32 20 L	

FLHEAT32210	6009880564675	HEAT TRANSFER 32 200 L	
FLHON20	6009710000455	HONING OIL 20 L	
FLHYD1020	6009710000462	HYDRAULIC 10 20 L	
FLHYD10210	6009710002858	HYDRAULIC 10 200 L	
FLHYD105	6009880774555	HYDRAULIC 10 4X5L	
FLHYD10020	6009880774395	HYDRAULIC 100 20 L	
FLHYD100210	6009710000479	HYDRAULIC 100 200 L	
FLHYD15020	6009710001551	HYDRAULIC 150 20 L	
FLHYD3220	6009801478616	HYDRAULIC 32 20 L	
FLHYD32210	6009710000486	HYDRAULIC 32 200 L	
FLHYD325	6009880774562	HYDRAULIC 32 4X5 L	
FLHYDZF32210	6009710002841	HYDRAULIC 32 ZINC-FREE 200 L	
FLHYD461000	6009710000516	HYDRAULIC 46 1000 L	
FLHYD4620	6009801478623	HYDRAULIC 46 20 L	
FLHYD46210	6009880564774	HYDRAULIC 46 200 L	
FLHYD465	6009880564071	HYDRAULIC 46 4X5 L	
FLHYD46RD20	6009710006993	HYDRAULIC 46 RED 20 L	
FLHYD681	6009801478401	HYDRAULIC 68 12X1 L	
FLHYD685	6009801478265	HYDRAULIC 68 4X5 L	
<b>FLHYD6820</b>	<b>6009801478630</b>	<b>HYDRAULIC 68 20 L</b>	
<b>FLHYD68210</b>	<b>6009880564200</b>	<b>HYDRAULIC 68 200 L</b>	
FLHYD681000	6009710000509	HYDRAULIC 68 1000 L	
FLSHYD6820	6009710001667	HYDRAULIC 68 FULL SYNTHETIC 20 L	
FLHYD68METFR20	6009710001544	HYDRAULIC 68 METAL FREE 20 L	
FLHYD68SL20	6009710006689	HYDRAULIC 68 SILVER 20 L	
FLHYDUHV4620	6009880564521	HYDRAULIC UHVI 46 20 L	
FLHYDUHV46210	6009880564538	HYDRAULIC UHVI 46 200 L	
FLHYDUHV6820	6009710000523	HYDRAULIC UHVI 68 20 L	
<b>FLBHYD685</b>	<b>6009710007655</b>	<b>BIODEGRADABLE HYDRAULIC 68 4X5 L</b>	
<b>FLBHYD6820</b>	<b>6009710007662</b>	<b>BIODEGRADABLE HYDRAULIC 68 20 L</b>	
<b>FLBHYD68200</b>	<b>6009710007679</b>	<b>BIODEGRADABLE HYDRAULIC 68 200 L</b>	
FLIGO10020	6009710004050	IGO 100 20 L	
FLIGO15020	6009880564583	IGO 150 20 L	
FLIGO1050210	6009710000530	IGO 150 200 L	
FLIGO2201000	6009710000547	IGO 220 1000 L	

FLIGO22020	6009880564606	IGO 220 20 L	
FLIGO220210	6009880564613	IGO 220 200 L	
FLIGO32020	6009880564620	IGO 320 20 L	
FLIGO320210	6009880564637	IGO 320 200 L	
FLIGO46020	6009710000554	IGO 460 20 L	
FLIGO460210	6009880564644	IGO 460 200 L	
FLIGO460210L	6009710007365	IGO 460 210 L	
FLIGO6820	6009880774517	IGO 68 20 L	
FLIGO68210	6009710002513	IGO 68 200 L	
FLIGO68020	6009710002988	IGO 680 20 L	
FLIGO680210	6009710005026	IGO 680 200 L	
<b>FLINCLD0375</b>	<b>6009710004876</b>	<b>INJECTOR CLEANER DIESEL 15X375 ML</b>	
<b>FLINCLP0375</b>	<b>6009710004968</b>	<b>INJECTOR CLEANER PETROL 15X375 ML</b>	
FLLHM05	6009710005071	LHM FLUID 20X500 ML	
<b>FLLHM1</b>	<b>6009710005057</b>	<b>LHM FLUID 12X1 L</b>	
FLLHM5	6009710005064	LHM FLUID 4X5 L	
FLLHM20	6009710004999	LHM FLUID 20 L	
FLMOULD1000	6009710002544	MOULD RELEASE 1000 L	
FLMOULD20	6009880564569	MOULD RELEASE 20 L	
FLMOULD210	6009880564576	MOULD RELEASE 200 L	
FLNEEDLE20	6009710000653	NEEDLE OIL 20 L	
FLNEEDLE210	6009880564736	NEEDLE OIL 200 L	
FLOB2STR05	6009880564231	OUTBOARD 2 STROKE 20X500 ML	
<b>FLOB2STR1</b>	<b>6009880564132</b>	<b>OUTBOARD 2 STROKE 12X1 L</b>	
FLOB2STR20	6009710002551	OUTBOARD 2 STROKE 20 L	
FLOB2STR5	6009801478227	OUTBOARD 2 STROKE 4X5L	
<b>FLPSTEER05</b>	<b>6009710002919</b>	<b>POWER STEERING FLUID 20X500 ML</b>	
FLPSTEER5	6009710002926	POWER STEERING FLUID 4X5 L	
<b>FLSPSTEER05</b>	<b>6009710001936</b>	<b>POWER STEERING SYN 20X500ML</b>	
FLSPSTEER5	6009710002902	POWER STEERING SYN 4X5 L	
FLQUENCH3220	6009710000646	QUENCHING OIL 32 20 L	
<b>FLRFLSH0375</b>	<b>6009710004593</b>	<b>RADIATOR FLUSH 15X375 ML</b>	
FLROC1001000	6009710007372	ROCK DRILL 100 1000 L	
FLROC10020	6009710000639	ROCK DRILL 100 20 L	
FLROC100200	6009710007358	ROCK DRILL 100 200 L	

FLROC15020	6009710000622	ROCK DRILL 150 20 L	
FLROC150210	6009710002568	ROCK DRILL 150 200 L	
FLROC22020	6009710000615	ROCK DRILL 220 20 L	
FLROC220210	6009880564651	ROCK DRILL 220 200 L	
FLROC32020	6009710000608	ROCK DRILL 320 20 L	
FLROC320210	6009880564668	ROCK DRILL 320 200 L	
FLSH020SN05	6009710008157	SAE 0W20 SN/CF SYN <b>HYBRID</b> 20X500 ML	
<b>FLSH020SN5</b>	<b>6009710008164</b>	<b>SAE 0W20 SN/CF SYN HYBRID 4X5 L</b>	
FLSH030SN05	6009710008171	SAE 0W30 SN/CF SYN <b>HYBRID</b> 20X500 ML	
<b>FLSH030SN5</b>	<b>6009710008188</b>	<b>SAE 0W30 SN/CF SYN HYBRID 4X5 L</b>	
FLS020SN05	6009710005897	SAE 0W20 SN/CF SYN 20X500 ML	
<b>FLS020SN5</b>	<b>6009710005880</b>	<b>SAE 0W20 SN/CF SYN 4X5 L</b>	
FLS030SN05	6009710005910	SAE 0W30 SN/CF SYN 20X500 ML	
<b>FLS030SN5</b>	<b>6009710005903</b>	<b>SAE 0W30 SN/CF SYN 4X5 L</b>	
FLS040SN05	6009710005934	SAE 0W40 SN/CF SYN 20X500 ML	
<b>FLS040SN5</b>	<b>6009710005927</b>	<b>SAE 0W40 SN/CF SYN 4X5 L</b>	
FL10SF41	6009710002995	SAE 10W SF/CF4 12X1 L	
FL10SF420	6009801478548	SAE 10W SF/CF4 20 L	
FL10SF4210	6009880564439	SAE 10W SF/CF4 200 L	
FL10SF45	6009880564019	SAE 10W SF/CF4 4X5 L	
FL10305	6009710007112	SAE 10W30 CF4 4X5 L	
FL10301	6009710006870	SAE 10W30 SYN 12X1 L	
FLS103020	6009880774609	SAE 10W30 SYN 20 L	
FLS1030210	6009880774616	SAE 10W30 SYN 200 L	
FLS10305	6009710002971	SAE 10W30 SYN 4X5 L	
FLS1040CI45	6009710005088	SAE 10W40 CI4/CF SYN 4X5 L	
FLS1040CI420	6009880774005	SAE 10W40 CI4/CF SYN 20 L	
FLS1040SYN200	6009710008010	SAE 10W40 CI4/CF SYN 200 L	
FLS1040SYN210T	6009710007167	SAE 10W40 CI4/CF SYN 210 L	
FLE1040SLCF05	6009710002896	SAE 10W40 SL/CF SEMI-SYN 20X500 ML	
<b>FLE1040SLCF1</b>	<b>6009710002162</b>	<b>SAE 10W40 SL/CF SEMI-SYN 12X1 L</b>	
FLE1040SLCF20	6009710002209	SAE 10W40 SL/CF SEMI-SYN 20 L	
FLE1040SLCF210	6009710002216	SAE 10W40 SL/CF SEMI-SYN 200 L	
FLE1040SLCF5	6009710002131	SAE 10W40 SL/CF SEMI-SYN 4X5 L	
FLS1040SNCF5	6009880774012	SAE 10W40 SN/CF SYN 4X5 L	

FLS1040SNCF20	6009710001929	SAE 10W40 SN/CF SYN 20 L	
FLS1040SNCF210	6009710002575	SAE 10W40 SN/CF SYN 200 L	
FL1540CK405	6009710006191	SAE 15W40 CK4 20X500 ML	
FL1540CK45	6009710006207	SAE 15W40 CK4 4X5 L	
FL1540CK420	6009710005002	SAE 15W40 CK4 20 L	
<b>FL1540CK4200</b>	<b>6009710005019</b>	<b>SAE 15W40 CK4 200 L</b>	
FLE4STR154020	6009710001155	SAE 15W40 SEMI-SYN 4 STROKE 20 L	
FL1540SFCF405	6009801478050	SAE 15W40 SF/CF4 TURBO MAX 20X500 ML	
<b>FL1540SFCF41</b>	<b>6009710007501</b>	<b>SAE 15W40 SF/CF4 TURBO MAX 12X1 L</b>	
FL1540SFCF45	6009801478326	SAE 15W40 SF/CF4 TURBO MAX 4X5 L	
FL1540SFCF420	6009801478500	SAE 15W40 SF/CF4 TURBO MAX 20 L	
FL1540SFCF4210	6009880564194	SAE 15W40 SF/CF4 TURBO MAX 200 L	
FL1540SFCF41000	6009710006696	SAE 15W40 SF/CF4 TURBO MAX 1000 L	
FL1540SJCH405	6009801478173	SAE 15W40 SJ/CH4 ALL FLEET 20X500 ML	
FL1540SJCH45	6009801478289	SAE 15W40 SJ/CH4 ALL FLEET 4X5 L	
FL1540SJCH420	6009801478524	SAE 15W40 SJ/CH4 ALL FLEET 20 L	
FL1540SJCH4210	6009880564798	SAE 15W40 SJ/CH4 ALL FLEET 200 L	
FL1540SJCH41000	6009710001295	SAE 15W40 SJ/CH4 ALL FLEET 1000 L	
<b>FLE1540SLCI41</b>	<b>6009710007495</b>	<b>SAE 15W40 SL/CI4 S-SYN XTC 12X1 L</b>	
FLE1540SLCI45	6009880774999	SAE 15W40 SL/CI4 S-SYN XTC 4X5 L	
FLE1540SLCI420	6009710002506	SAE 15W40 SL/CI4 S-SYN XTC 20 L	
FLE1540SLCI4210	6009710002018	SAE 15W40 SL/CI4 S-SYN XTC 200 L	
FLD1540CI405	6009710004395	SAE 15W40 SL/CI4 SUP DIESEL 20X500 ML	
<b>FLD1540CI44</b>	<b>6009880774418</b>	<b>SAE 15W40 SL/CI4 SUP DIESEL 4X4 L</b>	
FLD1540CI45	6009710006160	SAE 15W40 SL/CI4 SUP DIESEL 4X5 L	
FLD1540CI420	6009710006177	SAE 15W40 SL/CI4 SUP DIESEL 20 L	
FL1540SLCI405	6009710003268	SAE 15W40 SL/CI4 SUP FLEET 20X500 ML	
<b>FL1540SLCI41</b>	<b>6009710007488</b>	<b>SAE 15W40 SL/CI4 SUP FLEET 12X1 L</b>	
FL1540SLCI44	6009880774074	SAE 15W40 SL/CI4 SUP FLEET 4X4 L	
FL1540SLCI45	6009801478012	SAE 15W40 SL/CI4 SUP FLEET 4X5 L	
FL1540SLCI420	6009801478531	SAE 15W40 SL/CI4 SUP FLEET 20 L	
FL1540SLCI4210	6009880564804	SAE 15W40 SL/CI4 SUP FLEET 200 L	
FL1540SLCI41000	6009710001288	SAE 15W40 SL/CI4 SUP FLEET 1000 L	
FL2050SF20	6009880564408	SAE 20W50 SF/CF 20 L	
FL2050SF210	6009880564415	SAE 20W50 SF/CF 200 L	

FL2050SF5	6009710004210	SAE 20W50 SF/CF 4X5 L	
FL2050SLCF05	6009710006917	SAE 20W50 SL/CF 20X500 ML	
<b>FL2050SLCF5</b>	<b>6009710004043</b>	<b>SAE 20W50 SL/CF 4X5 L</b>	
FL2050SLCF20	6009710007754	SAE 20W50 SL/CF 20 L	
FL2050SLCF200	6009710007075	SAE 20W50 SL/CF 200 L	
FL30SF20	6009880564965	SAE 30 SF/CF 20 L	
FL30SF210	6009880564972	SAE 30 SF/CF 200 L	
FL30SF5	6009880564026	SAE 30 SF/CF 4X5 L	
FL40SF405	6009801478395	SAE 40 SF/CF4 MAGNUM 20X500 ML	
<b>FL40SF41</b>	<b>6009710004203</b>	<b>SAE 40 SF/CF 4 MAGNUM 12X1 L</b>	
FL40SF45	6009801478258	SAE 40 SF/CF4 MAGNUM 4X5 L	
FL40SF420	6009801478494	SAE 40 SF/CF 4 MAGNUM 20 L	
FL40SF4210	6009880774319	SAE 40 SF/CF 4 MAGNUM 200 L	
FL50SF420	6009880564385	SAE 50 SF/CF4 20 L	
FL50SF4CF210	6009880564392	SAE 50 SF/CF4 200 L	
<b>FLS530C5</b>	<b>6009710007129</b>	<b>SAE 5W30 C3 4X5 L</b>	
FLS53005	6009880564163	SAE 5W30 SN/CF SYN 20X500 ML	
<b>FLS5301</b>	<b>6009880774661</b>	<b>SAE 5W30 SN/CF SYN 12X1 L</b>	
FLS5305	6009880564064	SAE 5W30 SN/CF SYN 4X5 L	
FLS53020	6009880564187	SAE 5W30 SN/CF SYN 20 L	
FLS530SNCF210	6009710002599	SAE 5W30 SN/CF SYN 200 L	
FLS54005	6009880564149	SAE 5W40 SM/CF SYN 20X500 ML	
<b>FLS5401</b>	<b>6009880774678</b>	<b>SAE 5W40 SM/CF SYN 12X1 L</b>	
FLS5405	6009880564156	SAE 5W40 SM/CF SYN 4X5L	
FLS54020	6009880564170	SAE 5W40 SM/CF SYN 20 L	
FLS540210	6009880774357	SAE 5W40 SM/CF SYN 200 L	
FLSLIDE22020	6009710001271	SLIDEWAY 220 20 L	
FLSLIDE3220	6009880774579	SLIDEWAY 32 20 L	
FLSLIDE32210	6009710001189	SLIDEWAY 32 200 L	
FLSLIDE4620	6009710004739	SLIDEWAY 46 20 L	
FLSLIDE6820	6009801478654	SLIDEWAY 68 20 L	
FLSLIDE68210	6009880564699	SLIDEWAY 68 200 L	
FLSLIDE685	6009710001196	SLIDEWAY 68 4X5 L	
<b>FLSSMK0375</b>	<b>6009710003930</b>	<b>STOP SMOKE 15X375 ML</b>	
FLSYNCB20	6009880774487	SYNCOOL B 20 L	

FLSYNCB210	6009710001202	SYNCOOL B 200 L	
FLSYNCB5	6009880774524	SYNCOOL B 4X5 L	
FLTHRCUT20	6009710000592	THREAD CUT TW 20 L	
FLTHRCUT5	6009710000585	THREAD CUT TW 4X5 L	
<b>FLUTTO80W20</b>	<b>6009710001240</b>	<b>UTTO 80 W 20 L</b>	
FLUTTO80W210	6009710002612	UTTO 80 W 200 L	
FL1540GL45	6009710001875	TRACTELLA 15W40 SF/CF/GL4 4X5 L	
<b>FL1540GL420</b>	<b>6009710001790</b>	<b>TRACTELLA 15W40 SF/CF/GL4 20 L</b>	
FL1540GL4210	6009710002407	TRACTELLA 15W40 SF/CF/GL4 200 L	
<b>FL103020</b>	<b>6009880774593</b>	<b>TRANSTAR 10W30 20 L</b>	
FL1030210	6009880564705	TRANSTAR 10W30 200 L	
FLTRANX1	6009710000578	TRANSFORMER OIL TX 12X1 L	
FLTRANX20	6009880564590	TRANSFORMER OIL TX 20 L	
FLTRANX210	6009880564781	TRANSFORMER OIL TX 200 L	
FLTRANX5	6009880564118	TRANSFORMER OIL TX 4X5 L	
FLTRANVIR20	6009710000561	TRANSFORMER OIL VIRGIN 20 L	
FLTRANVIR210	6009880564743	TRANSFORMER OIL VIRGIN 200 L	
FLTRANVIR5	6009710001582	TRANSFORMER OIL VIRGIN 4X5 L	
FLTO41020	6009880564446	TRANSMISSION TO 4 10 20 L	
FLTO410210	6009880564484	TRANSMISSION TO 4 10 200 L	
FLTO43020	6009880564453	TRANSMISSION TO 4 30 20 L	
FLTO430210	6009880564491	TRANSMISSION TO 4 30 200 L	
FLTO44020	6009880564460	TRANSMISSION TO 4 40 20 L	
FLTO440210	6009880564507	TRANSMISSION TO 4 40 200 L	
FLTO45020	6009880564477	TRANSMISSION TO 4 50 20 L	
FLTO450210	6009880564514	TRANSMISSION TO 4 50 200 L	
FLTURB32210	6009710004067	TURBINE 32 200 L	
FLTURB4620	6009710001226	TURBINE 46 20 L	
FLTURB46200	6009710006511	TURBINE 46 200 L	
FLTURB6820	6009710001233	TURBINE 68 20 L	
FLTURB68210	6009710002933	TURBINE 68 200 L	
FL2STRTCW02	6009801478135	TWO STROKE TCW 25X200 ML	
<b>FL2STRTCW05</b>	<b>6009801478388</b>	<b>TWO STROKE TCW 20X500 ML</b>	
FL2STRTCW1	6009801478869	TWO STROKE TCW 12X1 L	
FL2STRTCW5	6009801478876	TWO STROKE TCW 4X5 L	

FL2STRTCW20	6009880564927	TWO STROKE TCW 20 L	
FL2STRTCW210	6009880564934	TWO STROKE TCW 200 L	
FL2STRTCWRD05	6009710007204	TWO STROKE TCW <b>RED</b> 20X500 ML	
FLS2STR02	6009710006368	2 STROKE SYN 25X200 ML	
FLS2STR05	6009710006436	2 STROKE SYN 20X500 ML	
<b>FLS2STR1</b>	<b>6009710006429</b>	<b>2 STROKE SYN 12X1 L</b>	
FLS2STR5	6009710006443	2 STROKE SYN 4X5 L	
FLS2STR20	6009710006474	2 STROKE SYN 20 L	
FLS2STR210	6009880564729	2 STROKE SYN 200 L	
FLS2STR1000	6009710001179	2 STROKE SYN 1000 L	
FLVACUUM10020	6009710006771	VACUUM PUMP OIL 100 20 L	
FLVACUUM20	6009710001257	VACUUM PUMP OIL 20 L	
FLVACUUM5	6009880774586	VACUUM PUMP OIL 4X5 L	
FLVACUUM6820	6009710006740	VACUUM PUMP OIL 68 20 L	
FLWT3220	6009710002872	WHITE OIL 32 20 L	
FLWT32210	6009710002865	WHITE OIL 32 200 L	
<b>FLSWHTOIL20</b>	<b>6009880564750</b>	<b>WHITE OIL 68 SYN 20 L</b>	
<b>FLWOODPL20</b>	<b>6009880564682</b>	<b>WOOD PLATE 20 L</b>	
FLYUBASE20	6009710001520	YUBASE 20 L	
FLYU81000	6009710004661	YUBASE 8 1000 L	



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