

# SET HIGHLY FLEXIBLE COUPLING

**Highly flexible couplings type SET** are characterized by possibility of significant compensation during sudden, momentary overloads, over and above the nominal value of the transferred rotational moment and the same time it guarantees the integrity of the driving and driven machine. This is so since during driven machine is blocked and motor is still working, in that case flexible elements will breaks and drive will be disconnected.

We obtained an enhanced flexibility for type SET couplings through the application of two resilient elements: a resilient insert and a resilient segment. The hub mounted on the transmission shaft is bolted to the "flexible segment" and to the circular disk which, via the "flexible insert", transfers the rotational momentum from the hub mounted on the motor shaft. The flexible insert is not bolted to the rest of the machine thus, the coupling is unconnected in this place. This is very important during the housing installation in the drive, there is no need to unscrew the bolt joints carried out during factory assembly.

## ■ FLEXIBLE INSERT WORKING CONDITIONS

They can work in a pH 5÷12 environment, with in temperatures ranging from -40°C to +100°C. They are chemically resistant inclusive of: common solvents, petrol, oils or lubricants, sulphur or hydrochloric acids, soda lye, salt water.

## ■ APPLICATION

The basic application of the SET - flexible couplings is to join the electric motor with the transmission shaft in the drives of belt and drag conveyors, pump compressors, fans and other systems.



## ■ TECHNICAL PARAMETERS

SET type of coupling (mechanical size)	Units	SET-100... SET-132...	SET-200...	SET-250...	SET-315...	SET-500...	SET-750...	SET-1000...
Nominal torque	Nm	1080	2300	3200	4600	6400	10000	15000
Dynamic torque	Nm	3240	6900	9600	13800	19000	30000	45000
Angle distortion of the coupling with a nominal torque for hardness of the elastomer 70°Sh φN	(°)	ca. 8	ca. 8	ca. 8	ca. 8	ca. 8	ca. 5	ca. 5
Post-axial mounting misalignment (for the housing location) ΔP	mm	1 ÷ 3	1 ÷ 3	1 ÷ 4	1 ÷ 4	1 ÷ 4	1 ÷ 4	1 ÷ 4
Radial mounting misalignment ΔP <sub>r</sub>	mm	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Acceptable axial misalignment of the coupling semicircles during continuous work ΔK <sub>w</sub>	(°)	1,5	1,5	1	1	1	1	1

# MOJ

## HIGH FLEXIBILITY DISMOUNTABLE COUPLING

The main task of **flexible MOJ type couplings** is to join the electric driving motor with the transmission shaft in drives of other devices. An advantage of these couplings is that replacing flexible elements subject to wear (this refers both to the U-type insert and to the F-type segment) does not require dismantling the coupling from the power transmission system. Access to the flexible elements is radial. The couplings also have good attenuation capacity of dynamic variables, especially in operating conditions that are difficult for power transmission systems. The couplings can be used in machines intended for operation in underground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk.

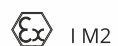


### ■ APPLICATION

Belt conveyors, scraper conveyors, roller conveyors, compressors, fans, pumps, mixers, centrifuges, cranes.

### ■ TECHNICAL PARAMETERS

MOJ type of coupling (mechanical size)	Units	8	16	32	50	75
Power transmitted (1500 rpm)	kW	55÷132	200	315	500	750
Maximum rotational speed	min <sup>-1</sup>	3000	3000	3000	1500	1500
Nominal torque	Nm	1080	2300	4600	4150	6000
Dynamic torque	Nm	3240	6900	13800	12450	15000
Angle distortion of the coupling with a nominal torque for hardness of the elastomer 90°Sh φN	(°)	ca. 5	ca. 5	ca. 5	ca. 5	ca. 5
Post-axial mounting misalignment (for the housing location) ΔP	mm	1÷3	1÷3	1÷3	1÷3	1÷3
Radial mounting misalignment ΔP <sub>r</sub>	mm	1,5	1,5	1,5	1,5	1,5
Acceptable axial misalignment of the coupling semicircles during continuous work ΔK <sub>w</sub>	(°)	1,5	1,5	1	1	1



# GIGANT

## FLEXIBLE DISMOUNTABLE COUPLING

**GIGANT type flexible couplings** are basically used to join the electric driving motor with the transmission shaft in belt and scraper conveyors, compressors, pumps, fans and other devices. The couplings are characterised by their compact construction. The couplings can always be used when it is difficult to dismount the engine. An F-type flexible segment can be replaced without dismounting the coupling from the power transmission system.

The couplings feature good attenuation of the dynamic torque variables. However, more accurate centring of the power transmission system will be required. The couplings can be used in machines intended for operation in underground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk.



### ■ APPLICATION

Belt conveyors, scraper conveyors, roller conveyors, compressors, fans, pumps, mixers, centrifuges, cranes.

### ■ TECHNICAL PARAMETERS

GIGANT type of coupling (mechanical size)	Units	4	8	16	32	50	75
Power transmitted (1500 rpm)	kW	55	100÷132	200	315	500	750
Maximum rotational speed	min <sup>-1</sup>	3000	3000	3000	3000	3000	1500
Nominal torque	Nm	560	760	1610	3220	3000	4000
Dynamic torque	Nm	1680	2280	4830	9660	8000	10000
Angle distortion of the coupling with a nominal torque for hardness of the elastomer 90°Sh φN	(°)	ca. 5	ca. 6	ca. 6,5	ca. 7	ca. 5	ca. 5
Post-axial mounting misalignment (for the housing location) ΔP	mm	1÷1,5	1÷1,3	1÷1,3	1÷1,3	1÷1,5	1÷1,5
Radial mounting misalignment ΔP <sub>r</sub>	mm	1,5	1,5	1,5	1,5	1,5	1,5
Acceptable axial misalignment of the coupling semicircles during continuous work ΔK <sub>w</sub>	(°)	1,5	1,5	1,5	1	1	0,8

# TYTAN

## FLEXIBLE COUPLING

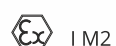
**TYTAN type flexible couplings** are basically used to join the electric driving motor with the transmission shaft in belt and scraper conveyors, compressors, pumps, fans and other devices. TYTAN type flexible coupling consists of a hub motor, double claw shield, two elastic inserts and a hub gear with the brake disc. Inserts are susceptible connecting element between the two coupling parts, and thus eliminate the screw connections. All couplings are pre-balanced in class G16. With flexible coupling double inserts well compensated torque spikes, and this translates into the quiet operation.

The couplings can be used in machines intended for operation in underground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk. TYTAN type flexible couplings are equipped with a brake disc and therefore cannot work with hubs fitted inversely. Flexible inserts are made of Miliuretanu II and are not dangerous explosive.



### ■ TECHNICAL PARAMETERS

TYTAN type of coupling (mechanical size)	Units	TYTAN S-300	TYTAN S-360
Power transmitted (1500 rpm)	kW	750	1200
Maximum rotational speed	min <sup>-1</sup>	1500	1500
Nominal torque	Nm	2280	3760
Dynamic torque	Nm	6840	11280
Angle distortion of the coupling with a nominal torque for hardness of the elastomer 90°Sh φN	(°)	ca. 7	ca. 7
Post-axial mounting misalignment (for the housing location) ΔP	mm	1 ÷ 4	1 ÷ 4
Radial mounting misalignment ΔP <sub>r</sub>	mm	1,5	1,5
Acceptable axial misalignment of the coupling semicircles during continuous work ΔK <sub>w</sub>	(°)	1	1



# DUAL

## HIGHLY FLEXIBLE COUPLING

**Coupling type DUAL** consists of two hubs and polyurethane flex element. Shapes of flex element ensure optimum co-operation even with high misalignments of the motor and drive shafts. High flexibility of polyurethane element protects equipment from radial and angular forces operated on bearings.

DUAL couplings can be used in underground mines, in potentially explosive methane and coal dust areas. DUAL couplings are design to individual characteristics of the drive system and customers' needs.



### ■ TECHNICAL PARAMETERS

Insert size DUAL	$T_{KN}$ [Nm]	$T_{Kmax}$ [Nm]	$\varphi N [^\circ]$	$\varphi_{max} [^\circ]$	$n_{max}$ [min <sup>-1</sup> ]	$K_r$ [mm]	$K_a$ [mm]	$K_w$ [ <sup>o</sup> ]
002	21	42	5	10	7500	1,6	4,7	4
003	41	82	5	10	7500	1,6	4,7	4
004	62	124	8	16	7500	1,6	4,7	4
005	105	210	8	16	7500	1,6	6,3	4
010	165	328	10	20	7500	1,6	6,3	4
020	260	520	10	20	6600	2,4	6,3	3
030	412	824	9	18	5800	2,4	6,3	3
040	622	1244	9	18	5000	2,4	6,3	3
050	864	1728	6	12	4200	2,4	6,3	3
060	1412	2824	6	12	3800	3,2	9,5	2
070	2486	4972	8	16	3600	3,2	9,5	2
080	4463	8926	10	20	2000	3,2	9,5	2
100	9605	19210	11	22	1900	4,8	15	1,5
120	19210	38400	10	20	1800	4,8	15	1,5
140	38400	76840	10	20	1500	4,8	15	1,5



# SP FLEXIBLE COUPLING

The **basic SP type coupling** consists of two hubs and a flexible insert. Hubs and flexible insert shapes ensure optimum cooperation even with an inexact lining of the motor and drive shafts. The standard flexible coupling insert hardness is 92° Shore A. It is also possible to use inserts with a hardness from 80° Shore A up to 98° Shore A. Thanks to the flexible insert's characteristics and the universality of the clutches they are commonly used in high dynamic load drives with diesel, electric or hydraulic motors. SP couplings are designed to drive, which decisive factor is constant rotation and easy starting.

## ■ FLEXIBLE INSERT WORKING CONDITIONS

They can work in a pH 5÷12 environment, with in temperatures ranging from -30°C to +80°C (instantaneous up to +100°C). They are chemically resistant inclusive of: common solvents, petrol, oils or lubricants, sulphur or hydrochloric acids, soda lye, salt water.

## ■ APPLICATION

Conveyors, feeders, elevators, hydraulic pumps ventilators, lifts, cranes, overhead cranes, compressors, crushers, device sets, mills, dryers and many other applications.

## ■ TECHNICAL PARAMETERS



Type of coupling	Elastic insert		Rated torque		Rated speed $n_{max}$ [rpm]	Outer diameter of the coupling [mm]
	Type	Operating temp. [°C]	$M_{zn}$ [Nm]	$M_{max}$ [Nm]		
Polyurethane connector 98 ShA						
SP 19R	R19	-30 ÷ +90	17	34	14000	41
SP 24R	R24		60	120	10600	56
SP 28R	R28		160	320	8500	65
SP 38R	R38		325	650	7100	80
SP 42R	R42		450	900	6000	95
SP 48R	R48		525	1050	5600	105
SP 55R	R55		685	1370	4750	120
SP 65R	R65		940	1880	4250	135
SP 75R	R75		1920	3840	3550	160
SP 90R	R90		3600	7200	2800	200
SP 100R	R100		4950	9900	2500	225
SP 110R	R110		7200	14400	2240	255
SP 125R	R125		10000	20000	2000	290
SP 140R	R140		12800	25600	1800	320
SP 160R	R160		19200	38400	1500	370
SP 180R	R180		28000	56000	1400	420

# SPIN

## FLEXIBLE DISMOUNTABLE COUPLING

**SPIN type flexible couplings** are most often used to join the electric/hydraulic driving motor with the shaft of the propelled device. They are recommended when ever it is difficult to dismount the engine. The U-type insert can be replaced without dismounting the engine from the power transmission system. Due to their simple construction (only a flexible U-type element is used) the couplings should not be used in power transmission systems with high dynamic variation of torque. The couplings do not cause problems if engine pivots are placed at an inaccurate angle with regard to the propelled device; they require, however, more accurate radial setting. The couplings can be used in machines intended for operation in under ground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk.



### ■ APPLICATION

Transmissions in belt and scraper conveyors, compressors, pumps, fans and other devices.

### ■ TECHNICAL PARAMETERS

SPIN type of coupling (mechanical size)	Units	4	8	16	32	50	75
Power transmitted (1500 rpm)	kW	55	100 ÷ 132	200	315	500	750
Maximum rotational speed	min <sup>-1</sup>	3000	3000	3000	3000	1500	1500
Nominal torque	Nm	350	852	1283	2020	3000	4000
Dynamic torque	Nm	875	2129	3207	5051	8000	10000
Angle distortion of the coupling with a nominal torque for hardness of the elastomer 90°Sh φN	(°)	ca. 5	ca. 6	ca. 6,5	ca. 7	ca. 5	ca. 5
Post-axial mounting misalignment (for the housing location) ΔP	mm	1 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5
Radial mounting misalignment ΔP <sub>r</sub>	mm	1,5	1,5	1,5	1,5	1,5	1,5
Accepttable axial misalignment of the coupling semicircles during continuous work ΔK <sub>w</sub>	(°)	1,5	1,5	1,5	1	1	1



# SJ ONE-WAY COUPLING

**SJ backstops** are an indispensable building block in the construction of machines and vehicles. Certain structures can be properly achieved only by using one-way couplings SJ.

These couplings ensure safety and efficiency. The basic task of one-way couplings SJ is blocking return movement.



## TECHNICAL PARAMETERS

Type of coupling SJ	Maximal rotational torque $T_{Kmax}$ [Nm]	Maximal rotational speed $n_{max}$ [rpm]	Standard holes [mm]	Maximal diameter of holes [mm]	External diameter [mm]	Weight [kg]
4	260	3800	16	16	67	1,1
6,3	540	2550	20	20	80	1,5
10	900	2400	25	25	95	2,2
16	1000	2200	28	30	105	3,1
25	2200	2000	35	40	125	4,2
40	2400	1750	40	45	135	5,4
63	3400	1450	45	50	150	7,4
100	6400	1200	55	60	180	13,1
160	8800	1000	70	75	210	18,0
250	15200	850	75/80	90	245	30
400	21600	720	95	100	280	44
630	37200	650	110	130	320	74
1000	64000	560	130	140	370	117
1600	92000	480	140	150	410	167
2500	130000	400	160	160	460	250





# SH FLUID COUPLING

**Fluid couplings** are designed for power transmission in high inertia machines operated in difficult operating conditions and exposed to substantial and vehement overload. The application of fluid couplings boosts smooth drive start-up, shortens electric motor operation time at high currents, reduces sudden jerks, halts and stops all dynamic load surpluses.

The couplings can be used in machines intended for operation in underground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk.

## APPLICATION

Belt conveyors, scraper conveyors, coal ploughs, crushers, pumps, mills, rotary furnaces, disintegrators, elevators, drawing machines, cable lifts.



## TECHNICAL PARAMETERS

Type of coupling	Nominal engine torque $M_{zn}$ [Nm]	Engine n [rpm]	Power transmitted by coupling N [kW]	Max. coupling torque $M_{max}$ [Nm]	Coupling starting torque $M_r$ [Nm]	Filling volume [dm <sup>3</sup> ]		Slide s [%]	Coupling mass [kg]		
						Hydraulic oil HLP-32	Water-oil emulsion 5%				
SH-55E	367	1470	55	720	780	11,7	10,5	2,5	82		
	366			920		12,5	11,3				
SH-100/75E	492	1470	75	975	1080	14,3	13,4	3,0	110		
	608			1330						15,6	14,5
	660			1280						15,7	
SH-132/110E	726	1470	110	1750	1750	19,2	18,1	3,0	152		
	870			2100				20,3		2,5	
SH-160	1560	985	160	2900	2970	45,0	43,9	10,3	263		

# SW-MOJ BOLT COUPLING

The main task of **SW-MOJ type couplings** is to join the electric or hydraulic driving motor with the transmission shaft in drives of other devices. These couplings can be used when connecting devices with intermittent operation, incorporated several times per shift, causing significant congestion of up to 50% torque. The advantage of coupling SW-MOJ is the ability to exchange elastic inserts and bolts, without having to lift-off the engine. SW-MOJ coupling can disconnect the motor from the system by removing the bolts without removing the entire system e.g. conveyor belts of the two propulsion systems operating alternately.

There is also a possibility to make custom coupling size and installation of the brake disc or brake drum. The couplings can be used in machines intended for operation in underground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk.

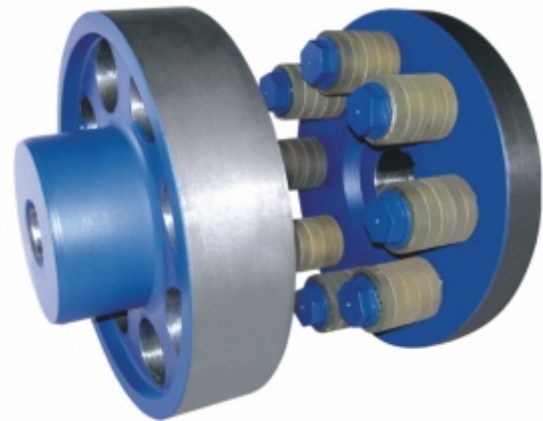
## ■ APPLICATION

Belt conveyors, scraper conveyors, roller conveyors, compressors, fans, pumps, mixers, centrifuges, cranes and many other applications.

## ■ ELASTIC INSERTS WORKING CONDITIONS

For use in environments of pH 5÷12, at temperatures ranging from -40°C to +80°C. Resistant to chemicals, including popular solvents, petrol, oil and greases, sulphur acid and hydrochloric lye, soda lye, saline water and many other chemical substances.

## ■ TECHNICAL PARAMETERS



Size of coupling	Number of bolts and inserts [pc]	Nominal rated torque $T_{KN}$ [Nm]	Maximal rotational speed $n_{max}$ [rpm]		Weight [kg]
			Cast iron	Steel	
92	4	40	5200	7300	2
100	6	63	4800	6700	2,5
110	8	100	4300	6000	3,6
130	6	160	3700	5200	6
140	8	250	3400	4800	7,6
160	10	400	3000	4200	12
180	8	630	2600	3700	16
210	10	1000	2300	3200	27
250	8	1600	1900	2700	40
280	8	2500	1700	2400	52
320	10	4000	1500	2100	83
380	8	6300	1250	1750	132
440	8	10000	1100	1550	212
500	10	16000	950	1350	300
590	8	25000	800	1120	500
700	10	40000	700	950	750



# ER-6 127V, 220V ELECTRIC HAND DRILLING MACHINE

**The ER-6 electric hand drilling machine** is designed for drilling holes in solid coal and mean-hard rock using helical drill rod with drill bit in diameter of  $\varnothing$  43 mm. The driller has flameproof construction and can be used in under- ground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk. Drill is manufactured in the following varieties: ER-6 ER-6/4, Voltage: ER-61 (3x127V) ER-62 (3x220V) and ER-61/4 (3x127V), ER-62/4 (3x220V), there is also a performance of the ER-6 ...u with supporting drilling hammer head.



## ■ TECHNICAL PARAMETERS

Parameters	Units	ER-61	ER-62	ER-61u / R62u
Rated power	kW	1,55	1,55	1,55
Motor rating	kW	1,1	1,1	1,1
Power supply	V	127	220	127 / 220
Frequency	Hz	50	50	50
Cos $\varphi$	-	0,86	0,86	0,86
Rated current	A	8,1	4,7	8,1;4,7
Times the starting current	-	4	4	4
Efficiency	-	0,72	0,72	0,72
Insulation class	-	F	F	F
Rotational speed	rpm	610	610	610
The torque on the drill	Nm	17,5	17,5	17,5
Work	-	S2 ÷ 30min	S2 ÷ 30min	S2 ÷ 30min
Degree of cover protection	-	IP-54	IP-54	IP-54
Marking flameproof	-	Ex d I	Ex d I	Ex d I
Weight without cable drill	kg	ca. 18	ca. 18	ca. 19
Ambient temperature	°C	0 ÷ 40	0 ÷ 40	0 ÷ 40
The frequency of stroke	imp./min	-	-	6100

CE 1453 Ⓜ I M2 Ex d I Mb  
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CE 1453 Ⓜ I M2c Ex d I Mb  
KDB 04ATEX081X

# WGH-5-EX

## HYDRAULIC MINING DRILL

**Hydraulic Mining Drill WGH-5-Ex** is designed mainly for manual rotary drilling of openings in hard rocks and overgrowth rock of varying hardness with use of tools consisting of spiral drilling rod ended by appropriate tool. The WGH-5U-Ex drill is additionally equipped with a mechanical stroke-assistant driller supporting the work, so that it becomes less cumbersome.

The WGH-5(U)-Ex drill can be used directly while performing work in underground mining and other places where methane hazard categories are „a”, „b” and „c” and A and B grade coal dust explosion hazard.



### ■ TECHNICAL PARAMETERS

Drill Type	Units	WGH-5-Ex	WGH-5P-Ex	WGH-5U-Ex	WGH-5UP-Ex
Max. torque	Nm	48	101	48	101
Rotational speed	rpm	50 ÷ 770	50 ÷ 830	50 ÷ 770	50 ÷ 830
Impact frequency	imp./min	-	-	550 ÷ 7700	550 ÷ 7700
Work pressure	Mpa	30			
Motor absorption	l/min	25 in 500 rpm			
Type of medium used	-	- mineral oil HLP 22 ÷ 68 acc. to DIN 51524, - mineral oil HM 22 ÷ 68 acc. to ISO 6743/3, - water-oil emulsion 0,3%,			
Rinse water pressure	Mpa	-	0,4 ÷ 0,6	-	0,4 ÷ 0,6
Max. drilling diameter	mm	Ø48			
Weight	kg	~ 7,6	~9,1	~9,3	~10,9



# WUP-22

## PNEUMATIC PERCUSSIVE DRILLING MACHINE

The **WUP-22 pneumatic percussive drilling machine** is designed for drilling blast holes in medium hard coal and rocks at air pressure of 0,4 MPa. Bore dust remo-val can be affected by flushing or scavenging. To increase speed of penetration in horizontal or inclined drilling WUP-22 is adopted to work with an airleg of P-62L.

The purpose of the airleg is supporting the drill during operation providing uni-form pressure and relieving arduousness of men work. Pneumatic drilling machines WUP-22 require lubrication by compressed air from e.g. a duct lubricator. For WUP-22 we may apply the tools for hammer drilling: (monolithic) or rods and bits.

### ■ TECHNICAL PARAMETERS

Weight	kg	ca. 22
Strokes frequency	min <sup>-1</sup>	1950
Drill revolutions	rpm	200
Stroke energy	J	28
Air consumption	m <sup>3</sup> /min	3,2
Drill retainer size	mm	22,2 (7/8") x 108 or 25,4 (1") x 108





# P-62L

## PNEUMATIC SUPPORT LEG

**Pneumatic support leg P-62L** is used to increase performance and improve the comfort of working with a WUP-22 drilling machine. The support is intended to support the drilling machine during operation and to exert uniform pressure on the drill. The articulated connection of the pneumatic support to the WUP-22 drilling machine makes it possible to drill lateral and inclined holes. The support is equipped with a regulation valve which makes it possible to smoothly adjust the pressure force and the slide out speed, providing a firm working grip at the same time. The support is equipped with a quick release valve for reasons of work safety. The purpose of this valve is to withdraw the mining device immediately, interrupting the drill pressure.

### ■ TECHNICAL PARAMETERS

Parameter	Units	P-62L-880	P-62L-1281
Weight	kg	22,6	26,7
Total length	mm	1348	1749
Stroke	mm	880	1281
Air pressure	Mpa	0,3 ÷ 0,6	
Pressing force	kN	2,0	



CE  IM2



# PWR II

## PNEUMATIC HAND ROTARY DRILLING

**Mining Pneumatic hand rotary drilling machine PWR II** is designed for boring blast-holes in coal, salt beds, ore-body and other soft and mean-hard rocks. The main advantage of drill PWR II is its use directly while performing work in underground mining where methane hazard categories are „a”, „b” and „c” and A and B grade coal dust explosion hazard. The drilling machine is supplied with compressed air via lubricator. Tools applied for drilling: spiral drilling rod or rhombus spiral drilling rod as well as drill bit.

Maximum drilling diameter is  $\varnothing 62$  mm.



### ■ TECHNICAL PARAMETERS

Weight		~17,5	kg
Rotary torque nom.	$M_{nom}$	34	Nm
Rotary torque max	$M_{max}$	69	Nm
Power nom.	$N_{nom}$	2,7	kW
Rotation speed nom.	$n_{nom}$	750	min <sup>-1</sup>
Rotation speed max	$n_{max}$	1360	min <sup>-1</sup>
Air pressure max	$p_{max}$	0,6	Mpa
Air pressure request	Q	2,7	m <sup>3</sup> /min

CE  I M2c



# PKU-1, PKU-3

## PNEUMATIC IMPACT ROOT BOLTING MACHINES

**Pneumatic impact root bolting machine PKU-1(3)** is designed for drilling shot and anchoring holes in the roof of medium-hard and hard rocks. Upon the customer's request we may manufacture an anchoring machine with different cylinder stroke. The roof bolting machine PKU-1(3) has a possibility of adjusting the position of control valve depending on the excavation height.

### ■ PKU-1 TECHNICAL PARAMETERS

Weight	kg	ca. 61,0	ca. 52,0
Total height	mm	2240	1740
Height with stretched prop	mm	3540	2540
Pressure	Mpa	0,4 ÷ 0,6	
Pressing force	kN	2,1	
Stroke energy	J	24,5	
Strokes frequency	1/min	1950	
Drill revolutions	rpm	200	
Air consumption	m <sup>3</sup> /min	3,2	

### ■ PKU-3 TECHNICAL PARAMETERS

Weight	kg	ca. 50,0
Total height	mm	1020
Height with stretched prop	mm	1760
Pressure	MPa	0,4 ÷ 0,6
Strokes frequency	1/min	1950
Stroke energy	J	24,5
Drill revolutions	rpm	200
Pressing force	kN	12,8
Air consumption	m <sup>3</sup> /min	3,2







# PZW-1 PNEUMATIC DRILL KIT

**Pneumatic Drill Kit PDK-1** is used for drilling holes in semi-hard and hard rocks at different angles, with the air pressure  $0,4 \div 0,6$  MPa. Pneumatic drill kit PDK-1 allows you to remove cuttings from the hole with water or compressed air. Included with the device is upgraded WUP-22 drill, which is mounted on the pneumatic prop. Prop is used to support drilling and exert steady pressure on the drill bit during drilling, thereby reducing the effort of the employee



## ■ TECHNICAL PARAMETERS

Weight (leg I -800)	kg	~40
Drill length (without drill bit)	mm	~635
Air pressure	MPa	$0,3 \div 0,6$
Stroke energy	J	28
Strokes frequency	1/min	1950
Dril revolutions	obr./min	200
Air consumption	m <sup>3</sup> /min	3,2
Weight	kg	22
Leg Length	according to customers order	
Dimensions of drill shank	22,2x108 or 25,4x108	



## KD-3, KD-4 TORQUE SPANNER

**Torque spanner KD-3/KD-4** is designed to turn tight bolts of lining on required moment. Wanted magnitude of moment is obtained through adequate regulation of spring tension handwheel located in end part of the spanner. Required magnitude of moments is read off on the scale located in gripped part of the spanner. The scale has measurement range of 300-600 Nm. When checking screw home moment, exceed of moment is signaled by loud click of the pawl, located in central part of the spanner. The spanner is equipped with torque system to eliminate necessity of removing spanners cap from screw head.

### ■ TECHNICAL PARAMETERS

Type	Units	KD-3	KD-4
Weight (with rattle and without thimble)	kg	6,5	
Magnitude range of tightening torque	Nm	300 ÷ 500	400 ÷ 600
Size of head for thimbles	mm	Kw. 25,4 (1 inch)	
Length	mm	921	



## KRW-1, KRP-1 HAND SPANNER

**Hand spanner bended KRW-1 and hand spanner straight KRP-1** are two-way action spanners with ratchet mechanism. They are served to turn off back off screw joints with the help of exchangeable thimbles: normal L = 110 mm and a short L = 75 mm. Thimbles can be ordered independently of a key or a set with him.

### ■ TECHNICAL PARAMETERS

Type	Units	KRP-1	KRW-1
Weight (with rattle and without thimble)	kg	2,5	
Range of tightening torque	Nm	25	
Size of joint for thimbles	mm	kw. 25,4 (1 inch)	
Length	mm	420	



Standard thimbles L=110mm									
S	M16	M18	M20	M22	M24	M27	M30	M33	M36
	24	27	30	32	36	41	46	50	55
D	43	43	43	48	53	58	63	68	74

Short thimbles L=75mm								
S	M10	M12	M16	M20	M22	M24	M27	M30
	16	20	24	30	32	36	41	46
D	43	43	43	43	48	53	58	63





## S3 LINE OIL LUBRICATOR

**The S-type line oil lubricator** is intended for lubricating devices propelled by compressed air, such as drilling machines, pumps and supports with oil mist. Can be used in underground mines in hazard zones with the danger of methane and f coal dust explosion risk. The oil in the lubricator is atomised in the form of oil mist and reaches, together with the compressed air, all the surfaces that rub against each other during operation, preventing scufing.

Lubricating using an oil mist is one of the best methods of lubrication, helping lengthen the life of devices propelled by compressed air. The lubricator is placed on the tube supplying compressed air to the lubricated devices at a distance that does not exceed 5 m. The lubricator does not require additional maintenance, apart from filling with oil.



### ■ TECHNICAL PARAMETERS

Air pressure max	0,6MPa
Temperature of work	0°C ÷ +40°C
Capacity	1 l
Oil consumption in temperature +15°C ÷ +20°C	100 ml/h
Weight	~2,5 kg



# SN-400-MOJ

## VALENT FRICTION PROP

The **VALENT SN-400-MOJ** friction props are individual elements of lining whose is to prop the roof in mining excavations: longwall and splitting excavations, and to reinforce the lining of gallery excavations. Props may form an independent lining or be used as elements reinforcing another type of lining. The series of types of the VALENT SN-400- MOJ friction props include twenty two principal sizes ranging from 450 mm to 4500 mm when extended out. The VALENT SN-400-MOJ prop is certified and marked by safety sign.

### ■ TECHNICAL PARAMETERS

	Length of the drop	Height of the extended prop	Height of the withdrawn prop	Prop weight	Strength of support
Item	[mm]	[mm]	[mm]	[kg]	[kN]
1	450	450	380	28,8	400
2	500	500	400	29,7	
3	560	560	440	30,8	
4	630	630	470	32,0	
5	710	710	500	33,4	
6	800	800	550	35,1	
7	900	900	600	36,9	
8	1000	1000	650	38,7	
9	1120	1120	710	40,9	
10	1250	1250	780	43,2	
11	1400	1400	855	45,9	
12	1600	1600	955	49,3	
13	1800	1800	1055	53,2	
14	2000	2000	1155	56,9	
15	2240	2240	1275	61,1	
16	2500	2500	1405	65,9	
17	2800	2800	1555	71,3	
18	3150	3150	1730	77,6	
19	3550	3550	1930	84,8	
20	4000	4000	2260	93,2	250
21	4250	4250	2510	97,9	
22	4500	4500	2760	102,6	200





# SIK 1 PUMP SKID

**Pump skid type SIK 1** is an injection pump with a hydraulic drive designed for pumping chemically bonded adhesives into the rock mass. The adhesives are obtained by mixing two components i.e. resin and catalyst in the 1:1 proportion. The pump skid allows for middle- or high-pressure injection of adhesives into rocks or coal beds in underground mines in order to fill in cracks and hollows. The equipment can be used for works in methane explosion hazard zone a, b or c underground mining operations or in class A or B coal dust explosion hazard underground mining operations.



## ■ TECHNICAL PARAMETERS

Pump type	plunger pump
Type of control system	manual manipulation of manifold
Drive	hydraulic
Driving medium	hydraulic oil, water-oil emulsion or water
Demand for driving medium	min. 20 [dm <sup>3</sup> /min]
Minimum supply pressure	7,5 [MPa]
Nominal pressure	20 [MPa]
Maximum supply pressure	32 [MPa]
Number of cycles	20 [cycles/min]
Medium quantity pumped per cycle	0,23 [dm <sup>3</sup> ] + 0,23 [dm <sup>3</sup> ]
Medium quantity pumped per minute	4,6 [dm <sup>3</sup> /min] + 4,6 [dm <sup>3</sup> /min]
Minimum pressure of pumped medium	12 [MPa]
Maximum pressure of pumped medium	16 [MPa]
Operation of pressure fuse	17 [MPa] ± 1,6 %
Proportion of components pumped	1:1
Supply ratio	1:1,5
Type of components pumped	two-component adhesives with low chemical aggressiveness of their components
Overall dimensions	960 [mm] x 390 [mm] x 360 [mm]
Levelling (ground inclination)	± 15 [°]
Weight	approx. 50 [kg]



# AG HYDRAULIC AGGREGATE SET

**Hydraulic aggregate set** is designed for supplying of equipment in underground excavations and may be used in underground mines in a,b,c hazard zones with the danger of methane explosion at level A,B of coal dust explosion risk. The product is designed for supplying such equipment as hydraulic roof bolting machines, hydraulic drilling machines and other equipment with hydraulic drive. The version with a double section pump allows for simultaneous operation of two different pieces of equipment (roof bolting machine and hydraulic drilling machine). It is possible to extend the application of aggregate to cooperation with other devices with hydraulic drive.



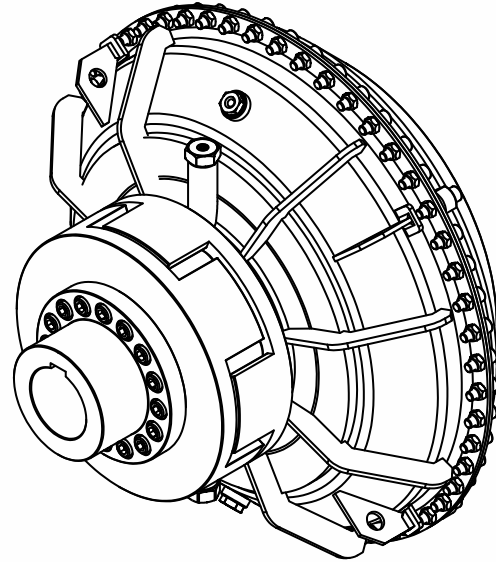
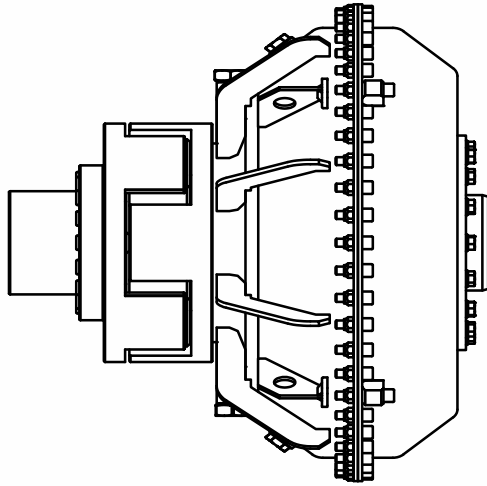
## ■ TECHNICAL PARAMETERS

Technical parameters	Units	Hydraulic aggregate type			
		AG-30-...-Z3-...	AG-30-...-Z4-...	AG-30-...-Z5-...	AG-30-...-Z6-...
Motor Power	kW	30			
Motor voltage	V	380, 400, 500, 660, 1000, 500/1000			
Max. work pressure	Mpa	20,0	12,0/19,1	13,0	17,7
Efficiency	l/min	63,0	62,5/39,2	100,5	84,4
Tank capacity	l	< 200			
Working medium	-	Hydraulic oil L-HL 32 ÷ 68			
Cooling water pressure	Mpa	0,4 ÷ 1,8			
Dimensions	mm	ca. 960x825x1960			
Weight (without oil)	kg	~ 820	~ 880	~ 820	~ 835

# HYDROKINETIC COUPLING TYPE SES 500F

NEW

- In steel case

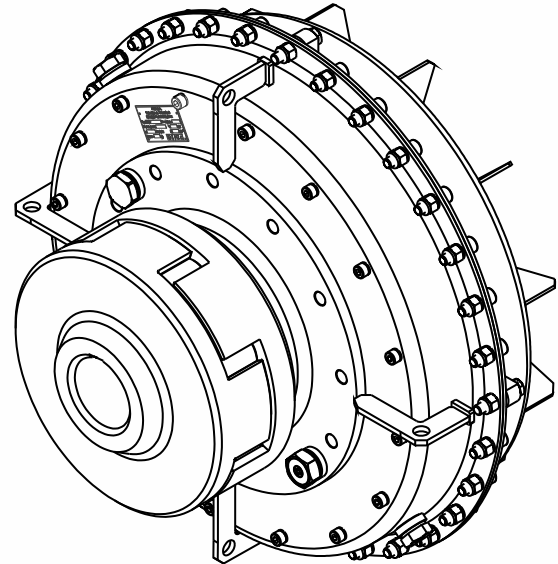
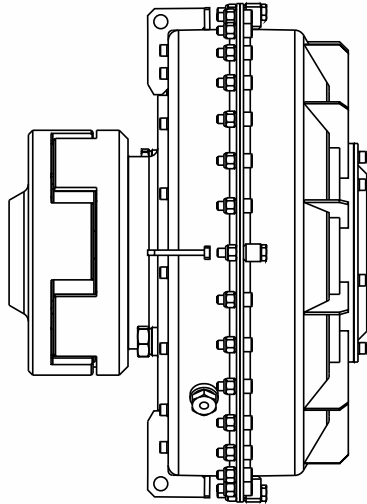


HYDROKINETIC COUPLING TYPE SES 500F	Units	
Nominal turnover	rpm	1475
The power transmitted when filling	kW	110
- 14,5 dm <sup>3</sup>		132
- 15,5 dm <sup>3</sup> - 16,5 dm <sup>3</sup>		160
Rated slip	(%)	3
The range of sliding	(%)	3 to 100
Operating temperature	(C°)	30 to 80
The thermal fuse	(C°)	140
Fuse pressure	MPa	over 0,5

# HYDROKINETIC COUPLING TYPE SH 100 S

• in a steel housing

NEW



## TECHNICAL PARAMETERS

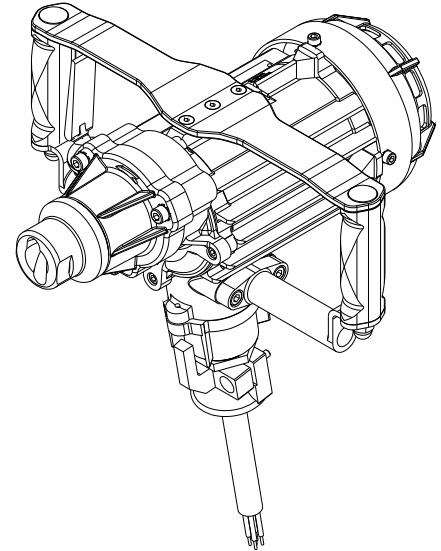
Technical parameters of the SH 100 S coupling		Units	
Rated torque engine ( $M_{zn}$ )	Nm	492	
		608	
		660	
Engine speed (n)	obr/min	1470	
Power transmitted by coupling (N)	kW	75	
		90	
		100	
Torque, coupling max ( $M_{max}$ )	Nm	975	
		1330	
		1280	
Coupling start torque ( $M_r$ )	Nm	1080	
		1350	
		1300	
Size filling	hydraulic oil HLP-32	dm <sup>3</sup>	14,3; 15,6; 15,7
	water-in-oil emulsion 5%	dm <sup>3</sup>	13,4; 14,5
Slip (s)	%	3,0	
Coupling weight	kg	110,0	



# ELECTRIC HAND DRILLING MACHINE WER-6 127V, 220V

NEW

**The WER-6 electric hand drilling machine** is designed for drilling holes in solid coal and mean-hard rock using helical drill rod with drill bit in diameter of  $\varnothing$  43 mm. The driller has flameproof construction and can be used in under-ground mines in a, b or c hazard zones with the danger of methane explosion and at level A and B of coal dust explosion risk. Drill is manufactured in the following varieties:  
WER-6 WER-6/4, Voltage: WER-61(3x127V), WER-62 (3x220V) and WER-61/4 (3x127V), WER-62/4 (3x220V) there is also a performance of the WER-6...u supporting with drilling hammer head.



## ■ TECHNICAL PARAMETERS

Parameters	Units	WER-61	WER-62	WER-61u / WER62u
Rated power	kW	2	2	2
Motor rating	kW	1,5	1,5	1,5
Power supply	V	127	220	127 / 220
Frequency	Hz	50	50	50
Cos $\varphi$	-	0,86	0,86	0,86
Rated current	A	10,7	6,2	10,7;6,2
Times the starting current	-	4	4	4
Efficiency	-	0,74	0,74	0,74
Insulation class	-	F	F	F
Rotational speed	rpm	610	610	610
The torque on the drill	Nm	22,9	22,9	22,9
Work	-	S2 $\div$ 30min	S2 $\div$ 30min	S2 $\div$ 30min
Degree of cover protection	-	IP-54	IP-54	IP-54
Marking flameproof	-	Ex d I	Ex d I	Ex d I
Weight without cable drill	kg	ca. 20	ca. 20	ca. 22
Ambient temperature	$^{\circ}$ C	0 $\div$ 40	0 $\div$ 40	0 $\div$ 40
The frequency of stroke	imp./min	-	-	6100

# RBM-11 PNEUMATIC JACKHAMMER

**RBM-11 pneumatically driven jackhammer** is equipped with an ergonomic steel grip with an internal trigger. This jackhammer features a very large impact force, similar to the impact energy of the jackhammers weighing 30 kg. Designed for harsh working conditions.

Works perfectly where a powerful impact is required.

Perfect for such tasks as breaking, crushing and disintegrating rock and coal blocks in underground mining operations. The RBM11 jackhammer has no air exhaust silencer so as not to hinder work in harsh conditions. The RBM11 jackhammer can be used without additional accessories such as lubricators or filters.



## ■ TECHNICAL PARAMETERS

Model	Total weight	Supply pressure	Number of impacts/min	Impact energy	Air consumption
RBM-11	14,0 kg	0,4 – 0,62 MPa	800	90 J	19 l/s

# STEEL HAND PUMPS P-700, P-2000, P-2421

- robust, steel construction suitable for operation in the harshest conditions
- two-stage operation reduces the pump operator's effort
- external drain valve
- four-way divider valves in P-2421 version
- internal pressure relief valve prevents overload
- internal pressure relief valve prevents overload
- large oil capacity enables cooperation with a wide range of cylinders and tools
- ergonomic carrying handle
- each pump equipped with a steel braided hose



## TECHNICAL PARAMETERS

Pump model designation	Usable oil capacity (cm <sup>3</sup> )	Rated pressure (MPa)		Displacement (cm <sup>3</sup> )		Weight (kg)
		1. stage	2. stage	1. stage	2. stage	
<b>P-700 with a hose</b>	700	1,38	70	13	2,8	8
<b>P-2000 with a hose</b>	2000	1,38	70	13	2,8	11,5
<b>P-2421 with a hose</b>	2000	1,38	70	13	2,8	12

Steel hand pumps are used for supplying hydraulic high-pressure devices such as nut splitters, pullers, cylinders, wire rope and steel rod cutters, hydraulic presses, expanders, etc.

The device can be used in underground mining operations, in non-methane and methane fields, in workings classified as "a", "b" and "c" methane explosion zones and A or B coal dust explosion zones.

# MCHH HYDRAULICALLY-DRIVEN BAND SAWS

The **hydraulically-driven band saw** is equipped with a hydraulic motor that runs on emulsion. The saw can be supplied with oil or emulsion with a pressure up to 30 MPa and a flow rate of 10-12 l/min.

The operation of the saw is controlled by a SHC valve located in a holder. When the parameters of the supply system of the saw are higher than specified above, reduce the pressure and flow rate of the medium using pressure reducing valves.



Thanks to specially designed band teeth and high quality of component materials, these saws can cut such materials as:

- common/alloy steels: 14/24 teeth/1"
- non-ferrous metals: 14/teeth/1"
- rubber and plastics: 14/teeth/1"

## ■ TECHNICAL PARAMETERS

Type		MCHH-180	MCHH-195
Cutting dimensions	mm	180 x 120	195 x 195
Motor power	kW	2,5	2,5
Motor supply pressure	MPa	max. 30	max. 30
Flow rate	l/min	10-12	10-12
Band speed	m/min	50	50
Band length	mm	1305	1590
Weight	kg	13,5	17,6



# MCHP PNEUMATICALLY-DRIVEN BAND SAWS

**MCHP pneumatically-driven band saws** consist of a housing with a holder and a pneumatic motor.

Universal hand tool widely used in mining industry. Thanks to specially designed band teeth and high quality of component materials, these saws can cut such materials as: alloy steels, non-ferrous metals, rubber and plastics.

In mining industry, the saw is used for cutting mine roadway support, push-plate conveyor chains, rails, pins, pipes, hydraulic conduits and cables.

The compressed air-supplied saw is a very efficient tool that can completely eliminate the use of gas burners in cutting.

The saw is equipped with special bimetallic bands with increased durability.



## ■ TECHNICAL PARAMETERS

Typ		<b>MCHP-180</b>	<b>MCHP-195</b>
Gabaryty cięcia	mm	<b>180 x 120</b>	<b>195 x 195</b>
Ciśnienie zasilania	MPa	0,2 - 0,6	0,2 – 0,6
Moc silnika	kW	1,5	1,5
Pobór powietrza	m <sup>3</sup> /min	0,55	0,55
Długość narzędzia	mm	660	770
Masa	kg	12	17
Połączenie przewodu	cal	R ¼ "	R ¼ "
Min. średnica węża	mm	13	13
Długość taśmy tnącej	mm	1305	1590



## PDH-2 TYPE CHISEL FOR WOODEN BEAMS

### PDH-2 type chisel for wooden beams

it consists of three main components: housing (POS. 1), cutting knife (POS. 2) and hydraulic cylinder (POS. 3). Housing made of steel sheets to which are attached there are two handles for easy carrying cutter and two legs for stable floor on soil. The knife is made of tool steel,

connected to the rod the cylinder moves reciprocating along the guides created through sheet metal housing. The slave cylinder  $\varnothing 75/\varnothing 40 \times 345$  is supplied through the dispenser and high pressure hydraulic hoses with hydraulic pressure up to 30 MPa. The boat is equipped

with two hand handles and two sheet support help installing and moving the tool. Two sheets, supports provide stability devices that increase the safety of operation. Application: cutting ties, cutting shelving and ceilings.



### ■ TECHNICAL PARAMETERS

Parametrs	Value
Type	PDH-2
Total length	1375 mm
Total height	405 mm
Total width	200 mm
Weight	54 kg
Max. the diameter of the cross beams	$\varnothing 240$ mm
Type of cutting material	wood
Maximum square cross-section	170 x 170 mm
Maximum cutting force	132,5 kN
Supply pressure	do 30 MPa
The method of connecting supply and drain	slot explosive compounds "STECKO" DN 8/10
Wire diameter	DN-10

# PNEUMATIC JACKHAMMERS

## RBM-2, RBM-4

**RBM pneumatically driven jackhammers** are designed for breaking, crushing and disintegrating rock and coal blocks in underground mining operations.

RBM-2 and RBM-4 jackhammers are lightweight hand pneumatic jackhammers characterized by an optimal combination of low weight and high power, which enables precise jackhammer operation. Each jackhammer is supplied with one chisel.



### TECHNICAL PARAMETERS

Model	Total weight kg	Supply pressure MPa	Number of impacts/min	Impact energy J	Air consumption l/s
RBM-2	7,0 kg	0,4 – 0,62 MPa	2250	18 J	15 l/s
RBM-4	7,5 kg	0,4 – 0,62 MPa	1400	28 J	15 l/s

# MCH INTEGRATED PULLERS

**Hydraulic integrated pullers** – a wide range of unique integrated hydraulic pullers with a pulling force from 4 to 30 ton. Perfect for dismantling any type of shaft-mounted parts.

- Integrated components: pump, cylinder, puller.
- Multipurpose tool: perfect for dismantling a wide range of press-fit shaft-mounted parts such as: bearings, wheels, bushings, gear wheels, etc
- Hardened jaws with anti-slip notches, chromium plated and hardened piston, chromium plated arm finish. Spring centring pin at the end of the piston
- Safe: integrated safety valve
- Easy to use – pulling job to be performed by a single operator



## ■ TECHNICAL PARAMETERS

Typ	Maximum pulling force	Maximum range mm	Maximum spacing mm	Piston stroke mm	Weight kg
MCH-4	4 t.	185	275	60	4,5
MCH-6	6 t.	230	300	85	6,5
MCH-8	8 t.	230	350	85	6,5
MCH-12	12 t.	270	375	85	8
MCH-20	20 t.	360	520	111	22
MCH-30	30 t.	360	550	111	32



# HYDRAULIC PULLERS - SETS



## TECHNICZNE PARAMETRY

Type of set	Maximum pulling force	Maximum range mm	Maximum spacing mm	Piston stroke mm	Weight kg
<b>MCH-4 Plus</b>	4 T.	185	255	60	9,5
<b>MCH-8 Plus</b>	8 T.	230	350	85	11,5
<b>MCH-12 Plus</b>	12 T.	270	375	85	14,0
<b>MCH-20 Plus</b>	20 T.	360	520	111	20
<b>MCH-30 Plus</b>	30 T.	360	550	111	30

# DDM501 MaxX HYDRAULIC DRILLING MACHINE WITH A PERMANENT MAGNET FIXTURE

**DD 501 MaxX drilling machine with a drilling** stand on the base, which is a permanent magnet with high clamping force, can be used for precise drilling of holes in steel using tapered drill bits up to  $\varnothing$  24 and trepanning milling cutters up to  $\varnothing$  60. The permanent magnet clamps the drilling machine on a flat surface of a steel structure with a force that guarantees correct operation of the drilling machine. The drilling machine can be mounted in horizontal position as well as in non-standard positions, e.g. on a vertical structure.



## TECHNICAL PARAMETERS

Type	DDM 501 MaxX
Maximum height with the slide raised	590 mm
Maximum height when folded	440 mm
Maximum drilling depth	85 mm
Weight of set	31 kg
Maximum diameter of drilled holes	12 mm - drill chuck 24 mm - Morse sleeve No. 2 60 mm - trepanning milling cutter
Speed of rotation	0 - 800 obr./min.
Supply pressure	10 - 13 MPa
Flow rate	18 litr/min.
Nominal magnet clamping force (with base thickness of 25 mm)	500 kg
Magnet base dimensions	260 mm x 120 mm
Maximum allowable humidity	80 %

The minimum thickness of the steel base should be 25 mm. Use the following reduction factors for the magnet clamping force for specified materials: cast steel - 0.8, high carbon steels - 0.7, cast iron - 0.45.



# PNEUMATIC TORQUE MULTIPLIERS



## ■ TECHNICAL PARAMETERS

Type		MCH-3000P	MCH-5000P
Max. tightening torque	Nm	3000	5000
Weight	kg	13,3	17,5
Max. supply pressure	MPa	0,63	0,63
Mandrel	cal	1	1 ½

MCH pneumatic torque multipliers are designed for tightening and loosening threaded connection elements with high tightening torques.

# HYNC hydraulic nut splitters

- Easy to use thanks to its compact and ergonomic design
- Angular cutting head
- Single-acting cylinder with return spring
- Sharpenable blades
- The heads of the nut splitters used in underground mining operations should be supplied using a two-stage steel manual hydraulic pump with rated oil pressure of 70 MPa (P700)



## ■ TECHNICAL PARAMETERS

Model number	Bolt range	Hex nut range (mm)	Capacity (ton)	Oil capacity (cm <sup>3</sup> )	Wymiary (mm)			Net weight (kg)
					Length	Width	Height	
HYNC-1319	M6-M12	10-19	5	5	170	40	48	1.2
HYNC-1924	M12-M16	19-24	10	10	191	54	62	2.0
HYNC-2432	M16-M22	24-32	15	15	222	64	72	3.0
HYNC-3241	M22-M27	32-41	20	20	244	75	88	4.4
HYNC-4150	M27-M33	41-50	35	35	288	94	105	8.2
HYNC-5060	M33-M39	50-60	50	50	318	106	128	11.8
HYNC-6075	M39-M48	60-75	90	90	393	156	181	34.1

**Attention!** Nut hardness must not exceed HRC-44  
The splitter head supply pressure must not exceed 70 MPa



Pump model designation	Usable oil capacity (cm <sup>3</sup> )	Rated pressure (bar)		Displacement (cm <sup>3</sup> )		Weight (kg)
		1. stage	2. stage	1. stage	2. stage	
<b>P-700 with a hose</b>	700	13,8	700	13	2,8	8

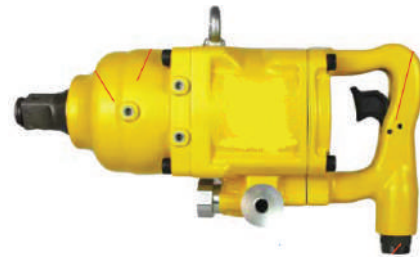
# PNEUMATIC IMPACT WRENCHES

For use in underground mine workings in potentially explosive atmospheres

**IMPACT-01**



**IMPACT-02**



**IMPACT-03**



**IMPACT-04**



Type of wrench	<b>IMPACT-01</b>	<b>IMPACT-02</b>	<b>IMPACT-03</b>	<b>IMPACT-04</b>
Grip type	pistol grip	straight grip	pistol grip	straight grip
Mandrel	$\frac{3}{4}$ "	1"	1"	1 ½"
Maximum torque	1700 Nm	3185 Nm	3300 Nm	4200 Nm
Weight	7,5 kg	12,1 kg	12 kg	17,8 kg
Bolt size	M14 – M24	M18 – M39	M18 – M39	M24 - M56
Maximum supply pressure	6,3 bar	6,3 bar	6,3 bar	6,3 bar

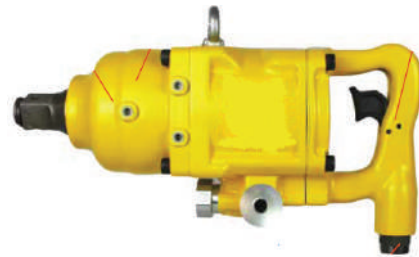
# PNEUMATIC IMPACT WRENCHES

For use in underground mine workings in potentially explosive atmospheres

**IMPACT-01**



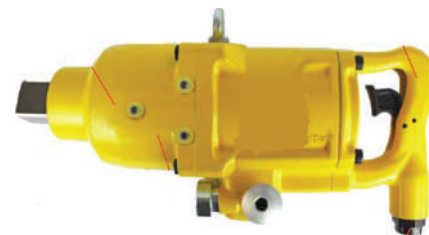
**IMPACT-02**



**IMPACT-03**



**IMPACT-04**



Type of wrench	IMPACT-01	IMPACT-02	IMPACT-03	IMPACT-04
Grip type	pistol grip	straight grip	pistol grip	straight grip
Mandrel	¾"	1"	1"	1 ½"
Maximum torque	1700 Nm	3185 Nm	3300 Nm	4200 Nm
Weight	7,5 kg	12,1 kg	12 kg	17,8 kg
Bolt size	M14 – M24	M18 – M39	M18 – M39	M24 - M56
Maximum supply pressure	6,3 bar	6,3 bar	6,3 bar	6,3 bar