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PNEUMATIC IMPACT WRENCHES SMP, SMS

DESCRIPTION:

The pneumatic impact wrenches SMP and SMS are used for loosening and tightening of bolted connections in the mining and heavy industries. The tightening torque is produced by a multi-plate motor that transfers the torque to the impact hammer mechanism.

The pneumatic impact wrenches meet conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.

The pneumatic impact wrenches SMP and SMS consist of the following basic parts:

- Complete control handle
- Complete drive
- Complete hammer mechanism



TECHNICAL PARAMETERS:

| | | SMP 026 | SMP 068 | SMP 140 | SMS 210 | SMS 260 |
|------------------------------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 | | | | |
| Maximum torque | [Nm] | 260 | 680 | 1400 | 2100 | 2600 |
| Air consumption | [m ³ min ⁻¹] | 0,67 | 0,8 | 1,9 | 2 | 1,37 |
| Tenon size | [mm] | ½“ | ¾“ | ¾“ | 1“ | |
| Filtration | [µm] | 50 | | | | |
| Basic dimensions (l x h) | [mm] | 168 x 190 | 199 x 244 | 238 x 410 | 367 x 135 | 367 x 135 |
| Weight | [kg] | 3,1 | 5,4 | 9 | 10,5 | 10,5 |
| Inside diameter of the supply hose | [mm] | Js 10 | Js10 | Js 16 | Js 16 | Js 16 |

PNEUMATIC BOOSTER (MULTIPLICATOR) NMP 3200

DESCRIPTION:

The pneumatic booster (multiplier) NMP 3200 is used for loosening and tightening of screw connections in the heavy industry. Its torque is supplied by the multi-plate motor that transfers the torque to the outlet 1 1/2" driver using planetary gears. The tightening torque setting is done by regulation of the supply pressure.

The pneumatic NMP 3200 booster (multiplier) does not contain light metal alloys and can be used in the explosive danger environment (EX I M2 c IIB 95C X and EX II 2 GD c IIB 95C according to the new European standard 94/9/EC and the standard 1999/92/EC – usually called ATEX).



Torque is limited by the safety clutch to 3200Nm

TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|------------|
| Operating pressure | [MPa] | 0,1 – 0,63 |
| Maximum torque | [Nm] | 3200 |
| Air consumption | [m ³ min ⁻¹] | 1,1 |
| Driver size | [mm] | 1" |
| Filtration | [µm] | 50 |
| Weight | [kg] | 18 |
| Inside diameter of the supply hose | [mm] | Js 10 |

ANTI-EXPLOSION VPN 42 PNEUMATIC DRILL

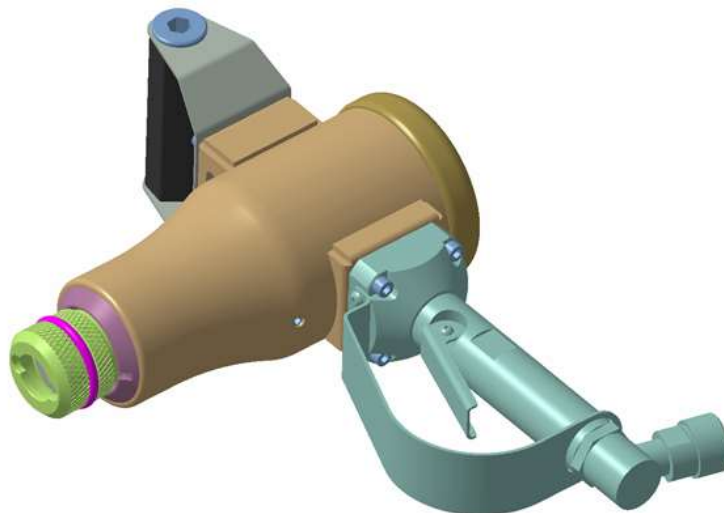
DESCRIPTION:

The anti-explosion VPN 42 pneumatic drill is used to drill holes up to Ø42mm in soft and medium-hard rocks. The drill is equipped by water irrigation to reduce dust.

The anti-explosion VPN 42 pneumatic drill meets conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.

The anti-explosion VPN 42 pneumatic drill consists of the following basic parts:

- Body with trigger 0023 PD 1000
- Pneumatic motor 0023 PD 2000
- Working part 0023 PD 3000



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Maximum water pressure | [MPa] | 0,6 |
| Air consumption | [m ³ min ⁻¹] | 3,8 |
| Max. output | [kW] | 3 ±10% |
| Max. diameter of the bit | [mm] | 42 |
| RPMs | [min ⁻¹] | 1100 |
| Kroutící moment | [Nm] | 28 |
| Filtration | [µm] | 50 |
| Basic dimensions (l x h) | [mm] | 344 x 295 |
| Weight | [kg] | 9,6 |
| Inside diameter of the supply hose | [mm] | Js19/Js10 |

ANTI-EXPLOSION DP 220 PNEUMATIC DRILL

DESCRIPTION:

The anti-explosion DP 220 pneumatic drill is used to drill holes up to Ø42mm in soft and medium-hard rocks. The drill is equipped by water irrigation to decrease dustiness.

The anti-explosion DP 220 pneumatic drill meets the conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.

The anti-explosion DP 220 pneumatic drill consists of the following basic parts:

- Body with trigger
- Pneumatic motor
- Working part



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Maximum water pressure | [MPa] | 0,6 |
| Air consumption | [m ³ min ⁻¹] | 2,7 |
| Max. output | [kW] | 2,2 ±10% |
| Max. diameter of the bit | [mm] | 42 |
| Max. revolutions | [min ⁻¹] | 1100 |
| Torque | [Nm] | 20 |
| Filtration | [µm] | 50 |
| Basic dimensions (l x h) | [mm] | 292 x 385 |
| Hmotnost | [kg] | 7,6 |
| Inside diameter of the supply hose | [mm] | Js19/Js10 |

PNEUMATIC STANDING DRILL VSP 1

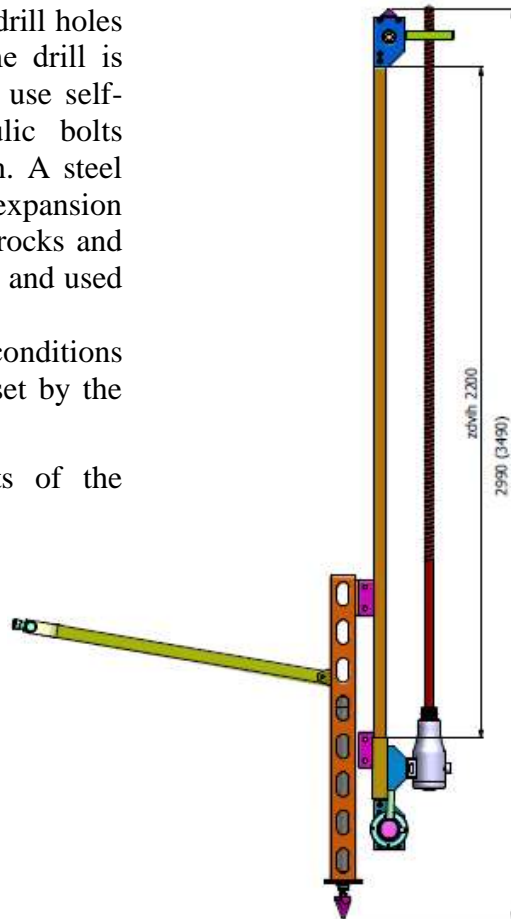
DESCRIPTION:

The pneumatic standing drill VSP 1 is used to drill holes up to Ø51mm in soft and medium hard rocks. The drill is equipped with water flushing and the possibility to use self-burrowing hydraulic bolts (expansion of hydraulic bolts immediately after burrowing) to lower dust creation. A steel rest that presses the grate against ceiling and using expansion cylinder pressure secures the ceiling against falling rocks and thus provides operator's safety is placed in the casing and used to guide the drill rod.

The pneumatic standing drill VSP1 meets the conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.

The pneumatic standing drill VSP1 consists of the following basic parts:

- Pneumatic reversible drill
- Fixed column with expansion cylinder
- Drill travel
- Control handle



TECHNICAL PARAMETERS:

| | | |
|--|-------------------------------------|--------------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Maximum water pressure/bolt expansion | [MPa] | 0,6/30 |
| Air consumption | [m ³ min ⁻¹] | 2,7 |
| Max. output | [kW] | 3 ±10% |
| Column pressure | [N] | 1500 |
| Drill pressure | [N] | 1000 |
| Max. revolutions | [min ⁻¹] | 1100 |
| Torque | [Nm] | 28 |
| Filtration | [µm] | 50 |
| Basic dimensions (l x h) | [mm] | |
| Weight | [kg] | Approx. 40kg |
| Inner diameter of inlet hose (air/water) | [mm] | Js19/Js10 |

PNEUMATIC TURBO DRILL DPT 450-011BXOEX

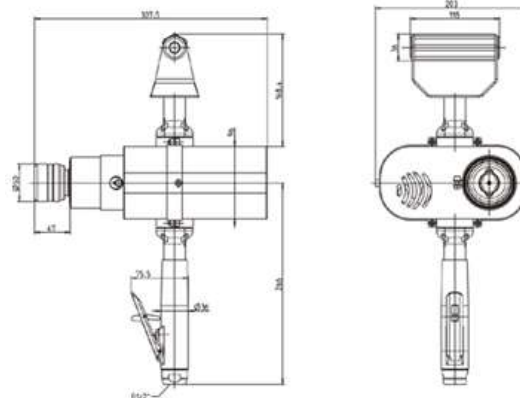
DESCRIPTION:

The pneumatic turbo drill DPT 450-011BXOEX is used for manual drilling with a drill rod equipped by a drill bit. The drill guarantees effective and economical work during industrial use in continuous operation even in environments with explosion danger (meets the IM2c II2GcIIBT6(80°C)X conditions). Drilling into soft and medium hard coal, shale or other soft rocks was never simpler.

The main technical difference against competition drills is use of a turbine engine. Another unique feature of this drill is the use of a belt in the first part of the gear to seal its oil contents during high speeds.

Due to its high gear ratio this drill achieves the torque of 45 Nm at maximum power and 105 Nm when stopped. A regulator of this drill works without air pressure that would influence its operation.

This drill is ready for drilling without water flushing. The lever start with safety is equipped by the 60 micron filtration. The exhaust points forward in the direction of spindle. Additional handle is used also as an anchor for a drill support. The drill rod clamp system is a flat hexagon – with an option to change according to customer's wishes or used drill rod ending. We recommend using an external filter to extend the drill service life.



TECHNICAL PARAMETERS:

| | | |
|--|-------------------------------------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Max. air consumption at idle/max. output | [m ³ min ⁻¹] | 1,25/4,3 |
| Max. output | [kW] | 4,5 ±10% |
| Max. diameter of the bit | [mm] | 42 |
| Max. revs. at idle/max. output | [min ⁻¹] | 1100/900 |
| Torque | [Nm] | 45 |
| Filtration | [µm] | 50 |
| Weight | [kg] | 8,7 |
| Inside diameter of the supply hose | [mm] | Js19 |

PNEUMATIC DRILLS PV 13, 16

DESCRIPTION:

The pneumatic drills PV 13 and 16 are used for drilling holes into iron or non-metallic materials. They are used in machining, automotive and similar industries.

The drills consist of the pneumatic multi-plate motor that is seated in aluminum body with a handle, planetary transmission and output shaft where various type working tools are attached.



PV 13B



PV 16B

TECHNICAL PARAMETERS:

| | | PV 13B | PV 13C | PV 16B |
|--|-----------------------------------|---------------|------------|-------------|
| Idle revs 1st gear / 2nd gear | min ⁻¹ | 1.450 / 1.950 | 350 | 600 / 850 |
| Max. output 1st gear / 2nd gear | kW | 0,45 / 0,50 | 0,35 | 0,45 / 0,50 |
| Idle air consumption 1st gear / 2nd gear | m ³ .min ⁻¹ | 0,45 / 0,90 | 0,95 | 0,45 / 0,90 |
| Air consumption | m ³ .min ⁻¹ | 0,7 | 0,8 | 0,7 |
| Operating pressure | MPa | 0,6 | 0,6 | 0,6 |
| Inside diameter of the supply hose | mm | 10 | 10 | 10 |
| Chuck range | mm | 2,0 - 13,0 | 2,0 - 13,0 | 3,0 - 16,0 |
| Inside diameter of the supply hose | mm | 13 | 13 | 16 |
| Max. diameter of drill bit for Aluminum and plastics | mm | 13 | 13 | 23 |
| Weight | kg | 2,45 | 1,95 | 3,15 |
| Basic dimensions (l x h) | mm | 230 x 167 | 246 x 189 | 290 x 167 |

PNEUMATIC DRILLS PV 32 AND PVR 32

DESCRIPTION:

The pneumatic drills PV 32 and PVR 32 are used for drilling holes into iron or non-metallic materials. They are used in machinery industry, construction etc.

The drills consist of the pneumatic multi-plate motor that is seated in aluminum body, handle with a lever controls, and the cover with planetary transmission.



PV 32



PVR 32

TECHNICAL PARAMETERS:

| | | PV 32A-04X | PVR 32A-04X |
|--|------------------------------------|------------|-------------|
| RPMs | min ⁻¹ | 380 | 380 |
| Max. output | kW | 1,85 | 1,45 |
| Air consumption | m ³ . min ⁻¹ | 2,1 | 2,4 |
| Operating pressure | MPa | 0,6 | 0,5-0,6 |
| Inside diameter of the supply hose | mm | 19 | 19 |
| MORSE cone | | 3 | 3 |
| Max. diameter of steel drill bit | mm | 32 | 32 |
| Max. diameter of drill bit for Aluminum and plastics | mm | 32 | 32 |
| Weight | kg | 9,5 | 9,40 |
| Basic dimensions (l x h) | mm | 335 x 410 | 335 x 410 |

REVERSIBLE PNEUMATIC DRILL VPR 20FE

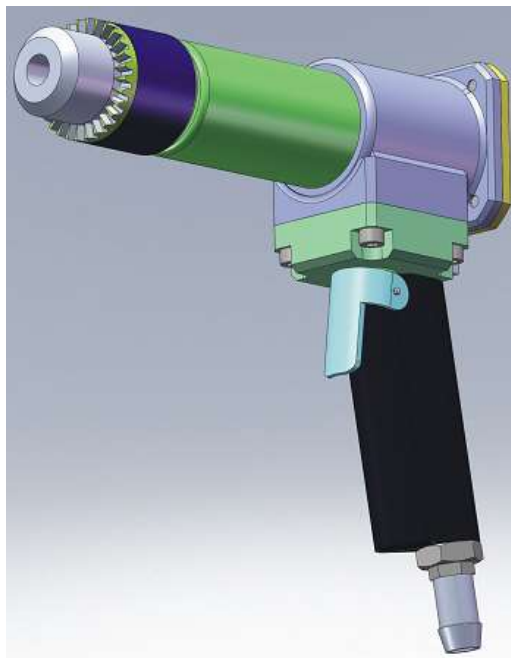
DESCRIPTION:

The reversible pneumatic drill VPR 20Fe is used to drill up to 20mm diameter holes in steel and other materials.

The VPN 42 reversible pneumatic drill meets conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.

The VPN 42 reversible pneumatic drill consists of the following basic parts:

- Body with motor and trigger 0030 PD 1000
- Working part 0030 PD 2000



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Air consumption | [m ³ min ⁻¹] | 0,8 |
| Max. output | [kW] | 0,6 |
| Max. diameter of the bit | [mm] | 20 |
| RPMs | [min ⁻¹] | 500 |
| Filtration | [µm] | 50 |
| Basic dimensions (l x h) | [mm] | 210 x 200 |
| Weight | [kg] | 3,5 |
| Inside diameter of the supply hose | [mm] | Js10 |

VPU 23 ANGULAR PNEUMATIC DRILL

DESCRIPTION:

The VPU 23 angular pneumatic drill is used for drilling and rounding up holes of up to Ø23mm diameter in steel. Thrust of the 60mm max. length spacer bolt can be used while drilling.

The VPU 23 angular pneumatic drill consists of the following basic parts:

- Body with motor
- Complete control handle
- Angular transmission with chuck



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| MORSE cone | | MORSE 2 |
| Air consumption | [m ³ min ⁻¹] | 1,6 |
| Max. output | [kW] | 1,5 ±10% |
| Max. diameter of steel drill bit | [mm] | 23 |
| RPMs | [min ⁻¹] | 280 |
| Filtration | [µm] | 50 |
| Basic dimensions (l x h) | [mm] | 446 x 193 |
| Weight | [kg] | 8,3 |
| Inside diameter of the supply hose | [mm] | Js15 |

PBO DIRECT PNEUMATIC GRINDERS

DESCRIPTION:

The PBO direct pneumatic grinders are used to grind welds in the machining industry, for grinding lugs or bosses in foundry industry etc.

They consist of the working part with the grinding wheel tightened to it, body with the multi-plate motor and control handle.



PBO 50



PBO 150

TECHNICAL PARAMETERS:

| | | PBO 100 | PBO 150 | PBO 180 | PBO 230 |
|------------------------------------|------------------------------------|----------|----------|----------|----------|
| RPMs | min ⁻¹ | 8500 | 5700 | 8500 | 6600 |
| Max. output | kW | 1,5 | 2,4 | 1,5 | 2,4 |
| Spotřeba vzduchu naprázdno | m ³ . min ⁻¹ | 0,5 | 0,7 | 0,5 | 0,7 |
| Air consumption | m ³ . min ⁻¹ | 1,55 | 1,9 | 1,5 | 1,9 |
| Operating pressure | MPa | 0,6 | 0,6 | 0,6 | 0,6 |
| Inside diameter of the supply hose | mm | 13 | 16 | 13 | 16 |
| Weight | kg | 3,7 | 5,1 | 4 | 5 |
| Basic dimensions (l x h) | mm | 74 x 523 | 90 x 537 | 74 x 510 | 74 x 510 |

PBU ANGULAR PNEUMATIC GRINDERS

DESCRIPTION:

The PBU angular pneumatic grinders are used for grinding steel materials in the machine-building industry, grinding of lugs in the foundry industry etc.

The PBU angular pneumatic grinders consist of the body with the multi-plate motor, control handle and the working part with a grinding wheel.



PBU 180E



PBU 150

TECHNICAL PARAMETERS:

| | | PBU 115C | PBU 150G | PBU 180E | PBU 230E |
|------------------------------------|------------------------------------|-----------|-----------|-----------|-----------|
| RPMs | min ⁻¹ | 13200 | 10200 | 8500 | 6600 |
| Max. output | kW | 0,5 | 1,9 | 2,4 | 2,4 |
| Spotř. vzduchu naprázdno | m ³ . min ⁻¹ | 0,52 | 0,9 | 1,1 | 0,7 |
| Air consumption | m ³ . min ⁻¹ | 0,82 | 1,8 | 2,2 | 2 |
| Operating pressure | MPa | 0,6 | 0,6 | 0,6 | 0,6 |
| Inside diameter of the supply hose | mm | 10 | 16 | 16 | 16 |
| Weight | kg | 1,8 | 4 | 5,5 | 5,5 |
| Basic dimensions (l x h) | mm | 160 x 157 | 234 x 192 | 335 x 220 | 335 x 200 |

SEK IMPACT HAMMERS

DESCRIPTION:

THE SEK impact hammers have all-round use and are used for example in:

- Construction – light demolition work, cutting grooves, and removing of plaster
- Foundry industry – cleaning of cast pieces, cutting of lugs
- Stone cutting - wedging, dressing and so on

The SEK impact hammers consist of the control handle, cylinder with piston and ring valves. The air exhaust is muffled through a rubber muffler.



SEK 2



SEK 5



SEK 6

TECHNICAL PARAMETERS:

| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure | Connection thread |
|-------------------|--------|------------------|---------------------------------------|-------------------------|--------------------|-------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | [mm] | [bar] | |
| SEK 2-1 CP | 2,2 | 155 × 220 | 0,3 | Ø 12,5 # 10,8 × 45 | 4-6 | G 1/2 " |
| SEK 4-1 CA | 4 | 225 × 353 | 0,2 | # 19 × 50 | 4-7 | G 1/2 " |
| SEK 5-2 CA | 5 | 230 × 355 | 0,7 | # 19 × 50 ¹⁾ | 4-7 | G 1/2 " |
| SEK 5-2 BL | 4,85 | 230 × 300 | 0,7 | ²⁾ | 4-7 | G 1/2 " |
| SEK 6-2 CA | 5,7 | 230 × 453 | 0,6 | # 19 × 50 ¹⁾ | 4-7 | G 1/2 " |
| SEK 6-2 BL | 5,55 | 230 × 350 | 0,6 | ²⁾ | 4-7 | G 1/2 " |

SK 9 AND SK 13 IMPACT HAMMERS

DESCRIPTION:

THE SK 9 AND SK 13 IMPACT hammers are used to break down less and medium-hard rocks and materials (for example concrete, bituminous roads, coal etc.), during construction work and in mining and surface operations.

The jackhammers consist of the control handle, cylinder with piston and ring valves. The air exhaust is muffled through a rubber muffler.



SK 9-5

TECHNICAL PARAMETERS:

| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure | Connection thread |
|-----------------|--------|------------------|---------------------------------------|-----------|--------------------|-------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | [mm] | [bar] | |
| SK 9-5 | 9 | 210 × 470 | 0,9 | Ø 25 × 75 | 4–6 | R 3/4 " |
| SK 9-6 | 9 | 210 × 470 | 0,9 | # 22 × 82 | 4–6 | R 3/4 " |
| SK 9-6 A | 10 | 210 × 470 | 0,9 | # 22 × 82 | 4–6 | R 3/4 " |
| SK 13 B | 13 | 236 × 612 | 0,9 | Ø 25 × 75 | 4–7 | R 3/4 " |
| SK 13 D | 12 | 271 × 604 | 0,9 | # 22 × 82 | 4–7 | R 3/4 " |
| SK 13 DZ | 12 | 271 × 604 | 0,9 | # 22 × 82 | 4–7 | R 3/4 " |

SKA 10 AND SKA 12 JACKHAMMERS with decreased vibrations

DESCRIPTION:

THE SKA 10 AND SKA 12 JACKHAMMERS with decreased vibration are used to break down less and medium-hard rocks and materials (for example concrete, bituminous roads, coal etc.), during construction work and in mining and surface operations.

The jackhammers consist of the spring-cushioned handle with control and integrated oil lubricating, cylinder with piston and ring valves. The air exhaust is muffled through a rubber muffler.



SKA 10B

TECHNICAL PARAMETERS:

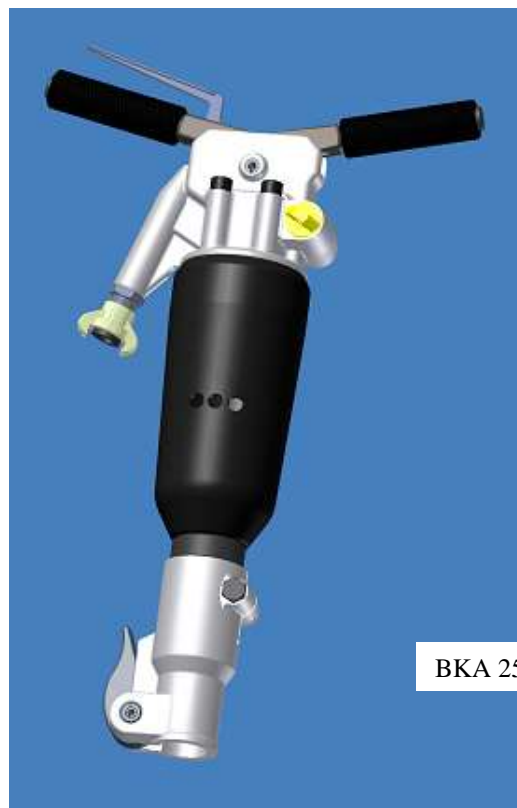
| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure | Connection thread |
|------------------|--------|------------------|---------------------------------------|-----------|--------------------|-------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | [mm] | [bar] | |
| SKA 12 B | 12 | 210 × 650 | 1,0 | Ø 25 × 75 | 4-7 | R 3/4 " |
| SKA 10 B | 10 | 210 × 490 | 0,9 | Ø 25 × 75 | 4-7 | R 3/4 " |
| SKA 10 D | 10 | 210 × 490 | 0,9 | # 22 × 82 | 4-7 | R 3/4 " |
| SKA 10 DZ | 10 | 210 × 490 | 0,9 | # 22 × 82 | 4-7 | R 3/4 " |
| SKA 12 D | 12 | 210 × 650 | 1,0 | # 22 × 82 | 4-7 | R 3/4 " |
| SKA 12 DZ | 12 | 210 × 650 | 1,0 | # 22 × 82 | 4-7 | R 3/4 " |

BKA DEMOLITION HAMMERS

DESCRIPTION:

THE BKA DEMOLITION hammers with reduced vibration are used to break down less and medium hard rocks and materials (for example concrete, bituminous roads, coal etc.), during construction work and in mining and surface operations. They are suitable for vertical or inclined work by their arrangement and weight.

The demolition hammers consist of the spring-cushioned handle with control and integrated oil lubricating, cylinder with piston and ring valves. The air exhaust is muffled through a rubber muffler



BKA 25

TECHNICAL PARAMETERS:

| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure | Connection thread |
|---------------|--------|------------------|---------------------------------------|-----------------------------|--------------------|-------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | [mm] | [bar] | |
| BKA 15 | 15 | 455 × 635 | 0,8 | # 22 × 82(# 25 × 108) | 4-7 | R 3/4 " |
| BKA 20 | 21 | 455x640 | 1,4 | # 25 × 108 (# 28 × 160) | 4-7 | R 3/4 " |
| BKA 25 | 25 | 455 × 640 | 1,8 | # 25 × 10(#28×160)(#32×160) | 4-7 | R 3/4 " |
| BKA 30 | 30 | 455 × 730 | 1,5 | # 32 × 160 | 4-7 | R 3/4 " |

PNEUMATIC DRILL HAMMERS BH 5 AND BH8

DESCRIPTION:

The pneumatic drill hammers BH 5 and BH8 belong to the light drill hammer weight category and are used to drill holes for blasting operations in rocks with various hardnesses, primarily in mines, then in road and railroad construction, in building construction etc.

The pneumatic drill hammers BH 5 and BH8 consist of the firm handle with a lever, cylinder with piston and the cylinder cover with a drill case.



BH 5



BH 8

TECHNICAL PARAMETERS:

| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure |
|-------------|--------|------------------|---------------------------------------|-----------|--------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | # [mm] | [bar] |
| BH 5 | 5 | 475 × 405 | 0,55 | 19 × 50 | 4–6 |
| BH 8 | 8,4 | 150 × 420 | 0,64 | 19 × 82,5 | 4–6 |
| BH 8 | 8,4 | 150 × 420 | 0,64 | 22 x 82,5 | 4–6 |

VK DRILL HAMMERS

DESCRIPTION:

THE VK drill hammers belong to the medium weight drill hammer category and are used to drill holes for blasting operations in rocks with various hardnesses, primarily in mines, then in road and railroad construction, building construction etc.

The VK drill hammers consist of the firm or spring-cushioned handle with control, cylinder with piston and the cylinder cover with a drill case.



VK 15 RO



VK 22



NVK 0,3

TECHNICAL PARAMETERS:

| | Weight | Basic dimensions | Air consumption | Tool stop | Operating pressure |
|-------------------|--------|------------------|---------------------------------------|----------------|--------------------|
| | [kg] | [mm] | [m ³ · min ⁻¹] | # [mm] | [bar] |
| VK 15 RO | 17,1 | 475 × 645 | 2,2 | 19 × 108 | 4–6 |
| VK 15-1 RO | 17,1 | 475 × 645 | 2,2 | 22 × 108 | 4–6 |
| VK 15-3 | 15,5 | 170 × 645 | 2,2 | # 19 × 108 | 4–6 |
| VK 15-4 | 15,5 | 170 × 645 | 2,2 | # 22 × 108 | 4–6 |
| VK 19 | 21,5 | 270 × 685 | 2,7 | 22 × 108 | 4–6 |
| VK 22-1 | 23,5 | 280 × 720 | 4 | 22 × 108 | 4–6 |
| NVK 0,3 | 26 | 280 × 680 | 4,3 | 22 × 108 | 3-4,5 |
| VK 29-2 | 26 | 280 × 720 | 4 | 22×108, 25×108 | 4–6 |

VP DRILL SUPPORTS

DESCRIPTION:

THE VP drill SUPPORTS are used with manual pneumatic drill hammers tailored to drill using pneumatic supports, for example, VK 22, NVK 0,3, VK 29 and such.

THE VP drill SUPPORTS consist from the spring-cushioned upper extendable part with a handle and control and the firm part with a spur that is used to support the drill supports while working. The extendable part is sealed using several leather sleeves that prevent pressure air leaks from the support.



TECHNICAL PARAMETERS:

| | Weight | Max. extension length | Max. thrust | Operating pressure |
|------------------|--------|-----------------------|-------------|--------------------|
| | [kg] | [mm] | [N] | [bar] |
| VP 600-1 | 16,9 | 600 | 1000 | 4-6 |
| VP 800-1 | 19,0 | 800 | 1000 | 4-6 |
| VP 1000-1 | 20,7 | 1000 | 1000 | 4-6 |
| VP 1200-1 | 22,4 | 1200 | 1000 | 4-6 |

PPP 300 PNEUMATIC DIRECT SAW

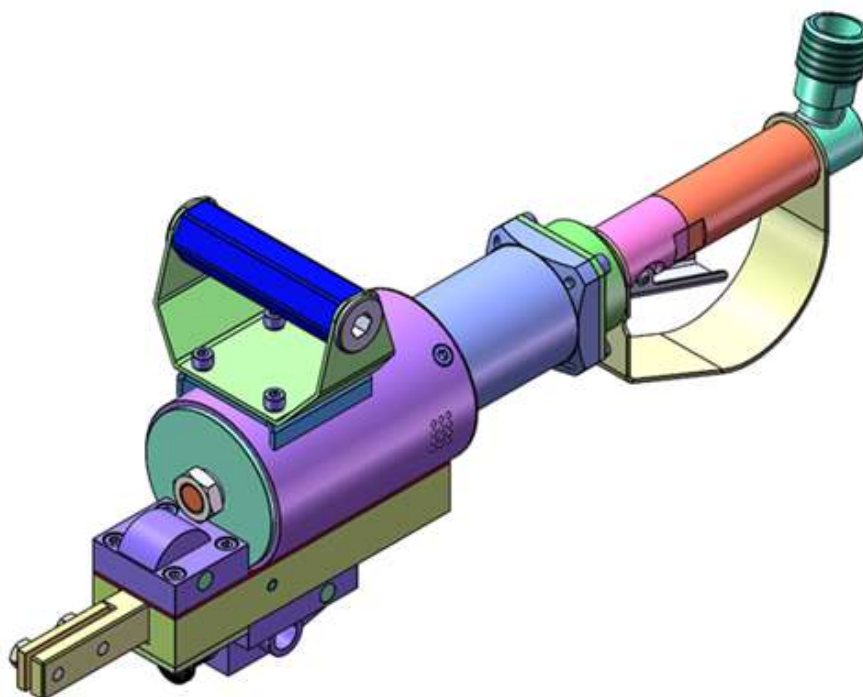
DESCRIPTION:

The PPP 300 pneumatic direct saw is designed for cutting and dividing of materials in heavy duty operations. Saw blade oscillations are induced by a cam mechanism that is driven by a lamellar engine.

The PPP 300 pneumatic direct saw does not contain any light metal alloys; therefore it can be used in environment with risk of explosion.

The saw consists of the following basic parts:

- Body with a cam mechanism
- Pneumatic motor with a control



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-----------|
| Working pressure | [MPa] | 0,4 – 0,6 |
| Max. output | [kW] | 1,1 |
| Air consumption | [m ³ min ⁻¹] | 1,2 |
| Saw blade travel | [mm] | 65 |
| Filtration | [µm] | 50 |
| Number of oscillations (off-load) | [min ⁻¹] | 380 |
| Weight | [kg] | 10,8 |
| Inside diameter of the supply hose | [mm] | Js 19 |

PPP 80 PNEUMATIC BAND SAWS

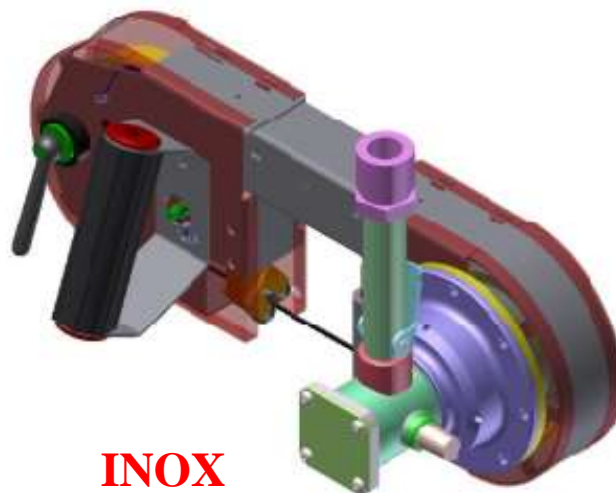
DESCRIPTION:

The PPP pneumatic band saws are designed for cutting and dividing materials in heavy duty operations. While sawing, there is no need to cool neither the material nor the saw band. The movement of the saw band is transferred by means of two pulleys that are driven by a lamellar engine with a control.

The PPP pneumatic band saw series do not contain any light metal alloys and can be used in environment with risk of explosion.

The saws consist of the following basic parts:

- Stainless steel frame
- Pneumatic motor with a control
- Planetary transmission



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|--------------|
| Operating pressure | [MPa] | 0,4 – 0,6 |
| Max. output | [kW] | 0,7 |
| Air consumption | [m ³ min ⁻¹] | 0,9 |
| Dimensions of cut material | [mm] | 80 x 80 |
| Filtration | [µm] | 50 |
| Band speed | [m/min ⁻¹] | 65 |
| Weight | [kg] | 8,2 |
| Saw chain attachment | | Not supplied |
| Inside diameter of the supply hose | [mm] | Js 10 |

PPP 120, PPP 160 AND PPP 180 PNEUMATIC BAND SAWS

DESCRIPTION:

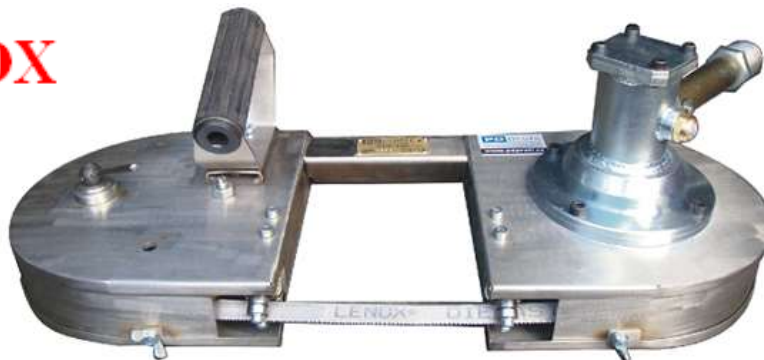
The PPP pneumatic band saws are designed for cutting and dividing materials in heavy duty operations. While sawing, there is no need to cool neither the material nor the saw band. The movement of the saw band is transferred by means of two pulleys that are driven by a lamellar engine with a control.

The PPP pneumatic band saw series do not contain any light metal alloys and can be used in environment with risk of explosion.

The saws consist of the following basic parts:

- Stainless steel frame
- Pneumatic motor with a control
- Planetary transmission

INOX



PPP 120

TECHNICAL PARAMETERS:

| | | PPP 120 | PPP 160 | PPP 140 | PPP 180 |
|------------------------------------|-------------------------------------|-----------|-----------|-----------|-----------|
| Operating pressure | [MPa] | 0,4 – 0,6 | | | |
| Max. output | [kW] | 0,7 | | 0,8 | |
| Air consumption | [m ³ min ⁻¹] | 0,9 | | | |
| Dimensions of cut material | [mm] | 120 x 127 | 160 x 127 | 140 x 180 | 180 x 180 |
| Filtration | [µm] | 50 | | | |
| Band speed | [m/min ⁻¹] | 65 | | | |
| Weight | [kg] | 9 | 9,5 | 11 | 15 + 3 |
| Saw chain attachment | | no | | | yes |
| Inside diameter of the supply hose | [mm] | Js 10 | | | |

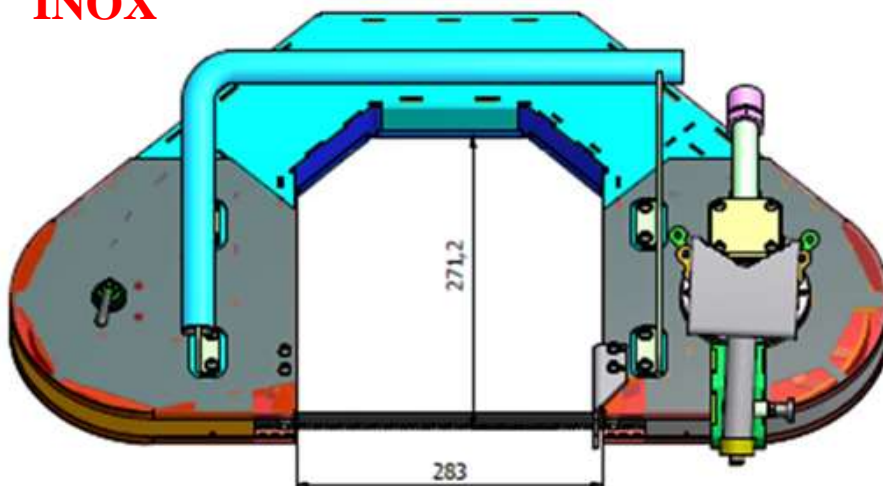
PPP 200, PHP 270 PNEUMATIC DIRECT SAWS

DESCRIPTION:

Pneumatic band saw PPP 200, PHP 270 is used for cutting and dividing materials in heavy production units. While sawing, there is no need to cool either the material or the saw band. The movement of the saw bend is transferred by means of four trolleys that are driven by plate engine with control. It is possible to use the saw as a hand saw or to fix it in chain holder.

The pneumatic band saw PPP 270 does not contain alloys and can be used in environment with explosion risk.

INOX



TECHNICAL PARAMETERS:

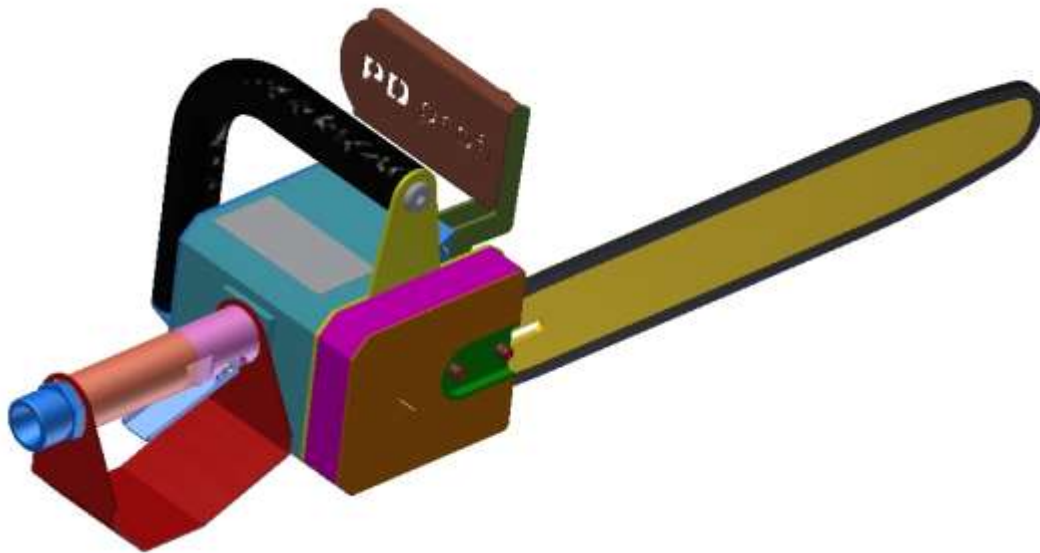
| | | PPP 200 | PPP 270 |
|------------------------------------|-------------------------------------|--------------|--------------|
| Operating pressure | [MPa] | 0,4 – 0,6 | 0,4 – 0,6 |
| Max. output | [kW] | 0,8 | 0,8 |
| Air consumption | [m ³ min ⁻¹] | 0,9 | 0,9 |
| Dimensions of cut material | [mm] | 219 x 190 | 283 x 271,2 |
| Filtration | [µm] | 50 | 50 |
| Band speed | [m/min ⁻¹] | 65 | 65 |
| Weight | [kg] | 13,2 + 3 | 20,5 + 3 |
| Saw chain attachment | | Not included | Not included |
| Inside diameter of the supply hose | [mm] | Js 10 | Js 10 |

PPR 40 PNEUMATIC CHAIN SAW

DESCRIPTION:

The PPR 40 pneumatic chain saw is intended for manual cutting of wood only. The saw bar length is 400mm.

The PPR 40 pneumatic chain saw consists of a control handle, a body with a lamellar engine, a band brake, a lubricating device, a bar with a saw chain and a top handle with a cover. The saw design meets the requirements for use in mines (ATEX).



TECHNICAL PARAMETERS:

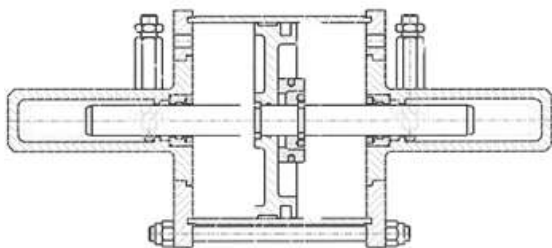
| | | |
|---------------------------------------|-------------------------------------|-----------|
| Working pressure | [MPa] | 0,4 – 0,6 |
| Max. output | [kW] | 2 |
| Air consumption | [m ³ min ⁻¹] | 3,2 |
| Blade length | [mm] | 400 |
| Filtration | [µm] | 50 |
| Cutting speed | [m/s ⁻¹] | 1,8 |
| Weight | [kg] | 10 |
| Inside diameter of the supply hose DN | [mm] | Js 19 |

MP 20 PNEUMATIC BOOSTER (MULTIPLICATOR) PUMP

DESCRIPTION:

The MP 20 pneumatic booster (multiplier) pump is used for irrigation of coal seams by high pressure water in order to reduce environmental dust.

The MP 20 pneumatic booster (multiplier) pump is a single action, twin high pressure plunger pump. It is equipped by handles for easy handling at the workplace. The booster (multiplier) pump is made from stainless material and meets conditions for use in the I M2 explosive danger environment set by the EN 1127-2 standard.



schématický výkres



TECHNICAL PARAMETERS:

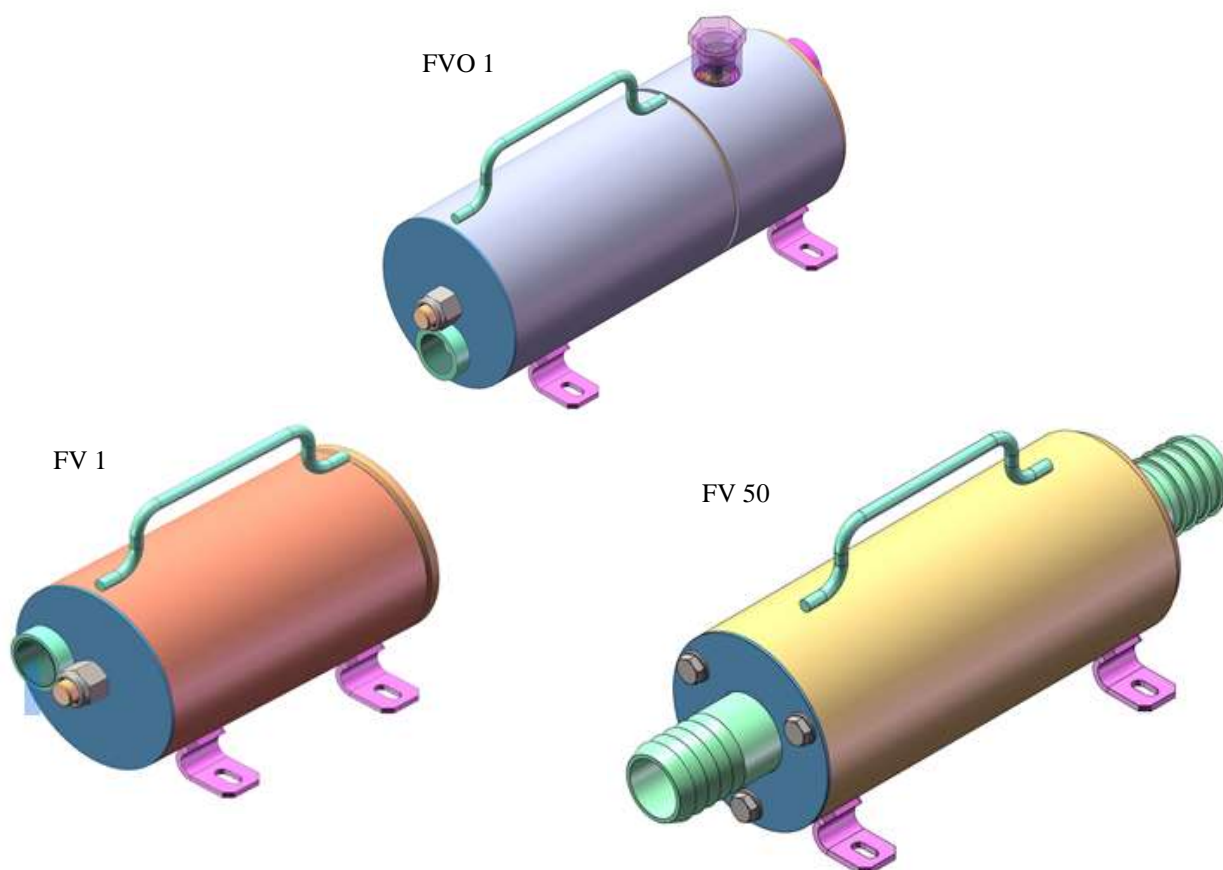
| | | |
|------------------------------------|-----------------------------------|-----------------|
| Operating pressure | [MPa] | 0,4 – 0,5 |
| Water supply pressure | [MPa] | 0,5 |
| Water supply pressure at 0.4 MPa | [MPa] | 16,4 |
| Water supply pressure at 0.5 MPa | [MPa] | 20,5 |
| Air consumption | [m ³ h ⁻¹] | |
| Water flow at 0.5 MPa | [l.min ⁻¹] | 7 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | 450 x 280 x 280 |
| Weight | [kg] | 37 |
| Inside diameter of the supply hose | [mm] | Ø16mm |

FV LINE AIR FILTERS

DESCRIPTION:

The FV line air filters are used for the filtration of pressure air for pneumatic tools and machines in heavy duty operations such as deep mines and foundries.

The FV 1" and FV 50 air filters consist of a steel pipe with a handle (or supports) of the cylindrical filter and a removable front. The FVO 1" filter is additionally equipped by lubrication to help oiling supplied pneumatic tools. Cleaning of the cylindrical filter is done by loosening of the central M16 nut and blowing off of the cylindrical filter by compressed air.



TECHNICAL PARAMETERS:

| | | FV 1" | FV 50 | FVO 1" |
|------------------------------------|-------|----------|-----------|----------|
| Operating pressure | [MPa] | | 0,2 – 0,7 | |
| DN | | Závit 1" | 50mm | Závit 1" |
| Filtration | [µm] | | 50, 100 | |
| Basic dimensions | [mm] | Ø127x230 | Ø127x453 | Ø127x357 |
| Weight | [kg] | 4,5 | 7,3 | 7,8 |
| Inside diameter of the supply hose | [mm] | Js 25 | Js 50 | Js 25 |

OVP 1 FLOAT WATER SEPARATOR

DESCRIPTION:

The OVP 1 float water separator is used for rough water filtration and separating of water droplets from pressure air for pneumatic tools and machines in heavy duty operations like deep mines, quarries, foundries, forges and others. The condensate is automatically drained after accumulation.

The OVP 1 float water separator consists of a pipe, two flanges, float mechanism and four bolts. Cleaning of the filter insert is done by reverse connection and flushing by pressure water.



TECHNICAL PARAMETERS:

| | | |
|--------------------|------------|-----------------|
| Operating pressure | [MPa] | max 0,8 |
| Input thread | | 1" |
| Output thread | | 2 x 3/4" |
| Filtration | [μ m] | 500 |
| Dimensions | [mm] | 250 x 250 x 450 |
| Weight | [kg] | 31 |

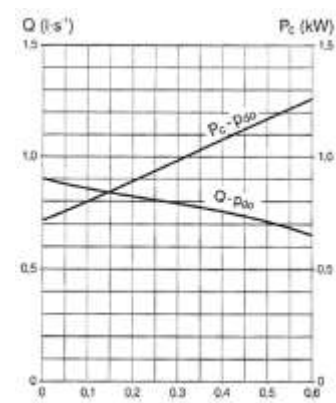
CPV 1 SCREW PNEUMATIC PUMP

DESCRIPTION:

The CPV 1 screw pneumatic pump is used to pump clean or slightly polluted water with the particle size up to 5 mm or oil. It is intended for explosion atmosphere danger environment, where compressed air is available as a driving medium. This is primarily in underground parts and surface installations of deep mines with danger of methane and combustible dust. The pump is recommended to be used with the FVO 1" lubricating filter.

The CPV 1 pneumatic screw pump consists of:

- Pneumatic multi-plate moto
- Screw pump
- Mechanical clutch



TECHNICAL PARAMETERS:

| | | |
|--------------------------|------------------------|--------------|
| Air pressure | [MPa] | 0.4 - 0.6 |
| Flow through rate - max. | [l·sec ⁻¹] | 0.7 |
| Input | [kW] | Approx. 1.1 |
| Filtration | [μm] | 50 |
| Air supply | [mm] | DN 25 (G 1") |
| Discharge branch | [mm] | DN 25 ("1") |
| Weight | [kg] | 11.5 |

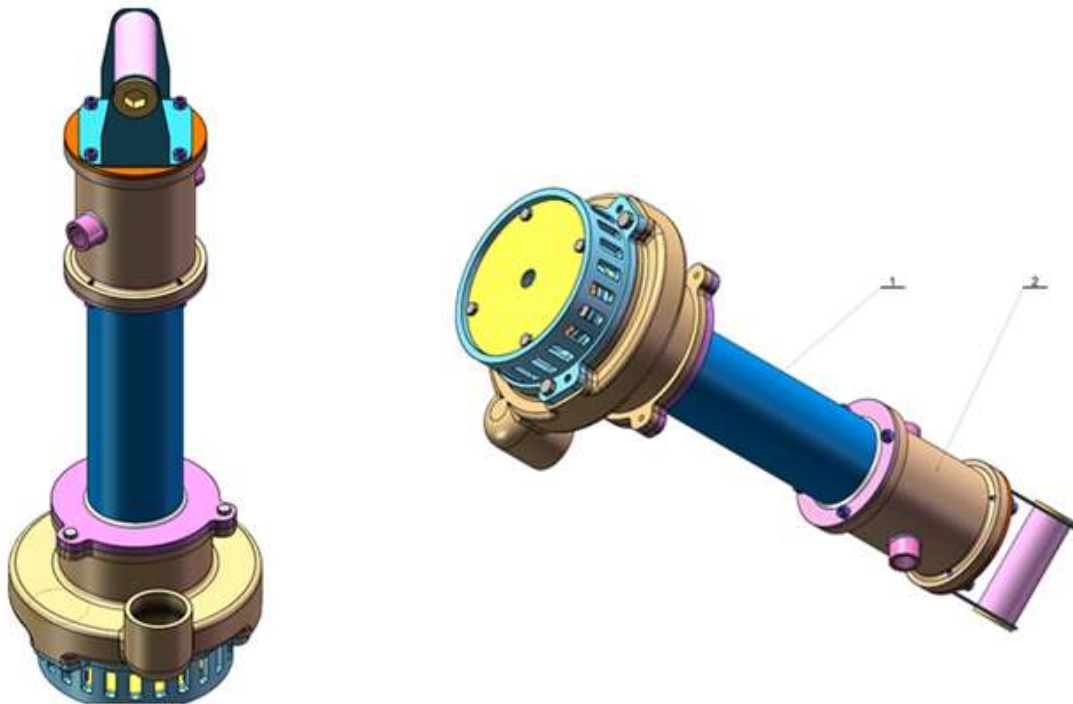
CPO 40 CENTRIFUGAL PNEUMATIC PUMP

DESCRIPTION:

The CPO 40 centrifugal pneumatic pump is used to pump clean or slightly polluted water with the particle size up to 5 mm. It is intended for explosion atmosphere danger environment, where pressure air is available as driving medium. This is primarily in underground parts and surface installations of deep mines with danger of methane and combustible dust. The pump is recommended to be used with the FVO 1“ lubricating filter.

The CPO 40 centrifugal pneumatic pump consists of:

- pneumatic multi-plate motor
- centrifugal pump with connecting pipe with shaft



TECHNICAL PARAMETERS:

| | | |
|--------------------------|------------------------|----------------------------|
| Air pressure | [MPa] | 0,4 - 0,6 |
| Flow through rate - max. | [l.sec ⁻¹] | 6 |
| Delivery height - max. | [m] | 40 |
| Input | [kW] | 3 |
| Filtration | [µm] | 100 |
| Air supply | [mm] | DN 20 (inside thread G 1“) |
| Discharge branch | [mm] | DN 50 (inside thread 2“) |
| Weight | [kg] | 18 |

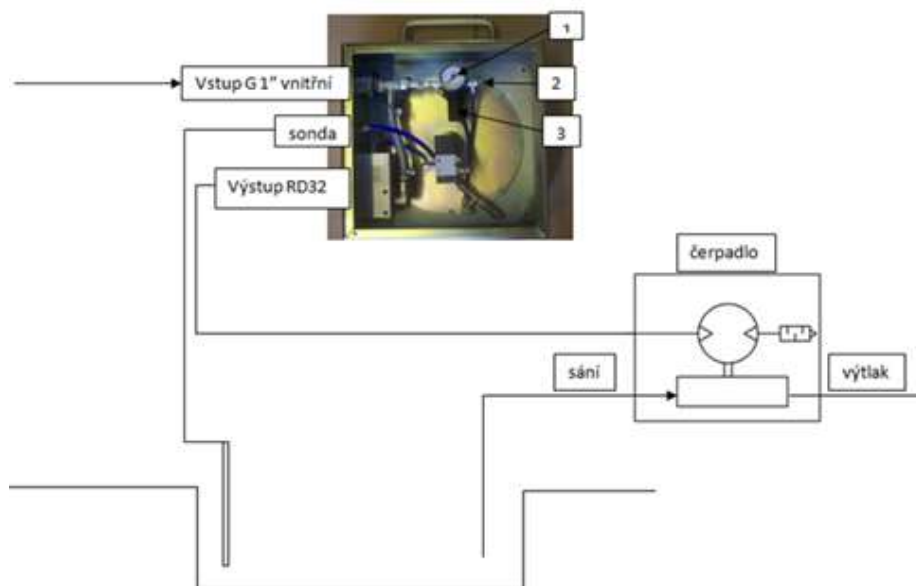
AUTOMATIC PUMP CONTROL PANEL PAOC 1

DESCRIPTION:

The pump automatic control panel (further called PAOC) is used for automatic starting and switching off of air pumps based on a level sensor signal.

Pressure air is brought to PAOC through the inner thread G 1“(Rd 32). The pressure air goes from the input to the power valve that is used to start or switch off the pump. The pump is connected to PAOC through the external RD 32 thread using hoses. The second branch that is used to evaluate the water level and to control the power valve is supplied through an integrated filter from the input. The sensed water column height is set by the manufacturer to 200 mm \pm 25 mm. The sensor is connected to PAOC by a hose with 6mm internal diameter.

Setting: On the pressure gauge (pos. 1) we will set the air pressure to approx. 0.15 – 0.2 MPa by the regulator knob (pos. 3). We will then set the sensor air supply by using the throttle screw (pos. 2). We need to screw the throttle screw (pos. 2) all the way in, and then by loosening it will set the air flow from the sensor (approx. 1 bubble per second).



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------|---------------|
| Operating pressure | [MPa] | 0,4 |
| Sensed level difference | [mm] | 200 \pm 10% |
| Actuating pulse | [MPa] | 0,15 |
| Dimensions | [mm] | 295x295x167 |
| Weight | [kg] | 16 |
| Inside diameter of the supply hose | [mm] | Js 16 |

HSR 1650 HYDRAULIC IMPACT WRENCH

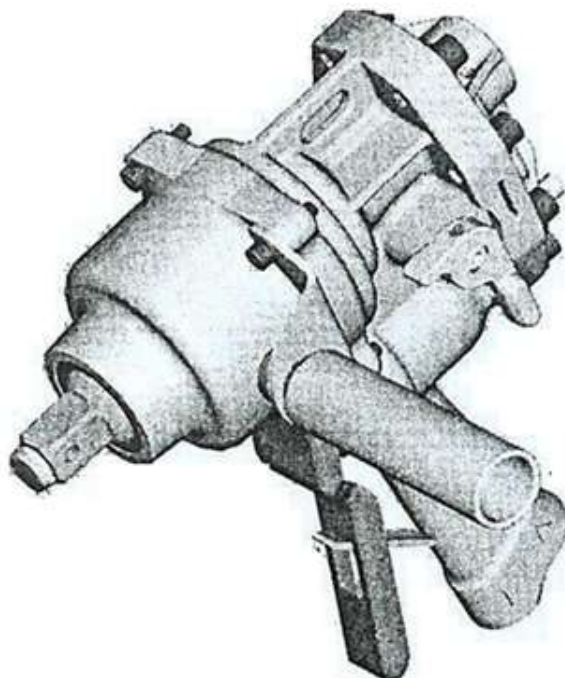
DESCRIPTION:

The HSR 1650 hydraulic impact wrench is used for loosening and tightening of nuts and bolts up to the M 30 size. The torque is created by a gear motor that transmits energy on the rotating hammer mechanism.

The HSR 1650 hydraulic impact wrench does not contain any light metal alloys; therefore it can be used in the explosion danger environment.

The wrench consists of three basic parts:

- Impact mechanism
- Hydraulic gear motor with control
- Starting lever



TECHNICAL PARAMETERS:

| | | |
|--------------------|------------------------------------|---------|
| Number of impacts | min ⁻¹ | 1200 |
| Maximum torque | Nm | 1650 |
| Operating pressure | MPa | 7 – 14 |
| Flow rate range | dm ³ .min ⁻¹ | 20 - 40 |
| Driver size | | 1" |
| Filtration | μ | 100 |
| Weight | kg | 9 |

HYDRAULIC IMPACT SCREWDRIVER HSR 1200

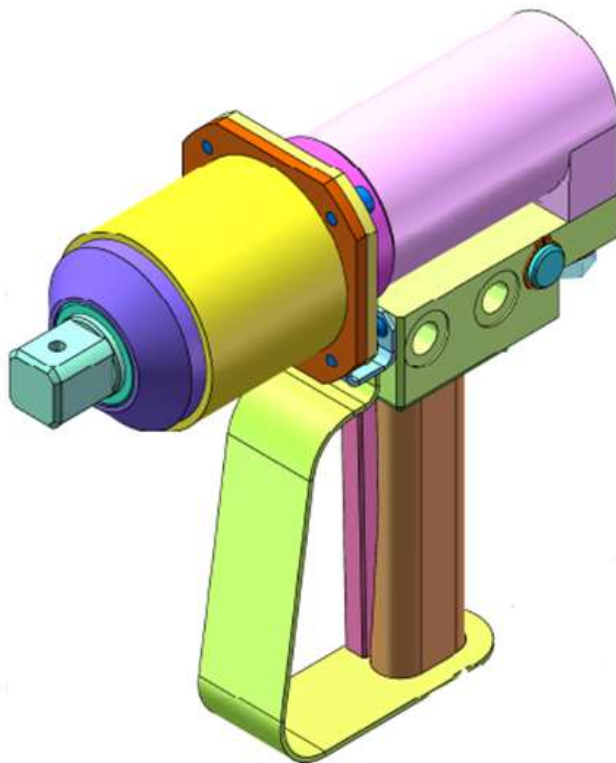
DESCRIPTION:

The HSR 1200 hydraulic impact screwdriver is used for loosening and tightening of nuts and bolts up to the M 30 size. The torque is created by an orbit motor that transmits energy on the rotating hammer mechanism.

The HSR 1200 hydraulic impact screwdriver does not contain any light metal alloys, therefore it can be used in the explosion danger environment.

The screwdriver consists of two basic parts:

- Impact mechanism
- Hydraulic orbit motor with control



TECHNICAL PARAMETERS:

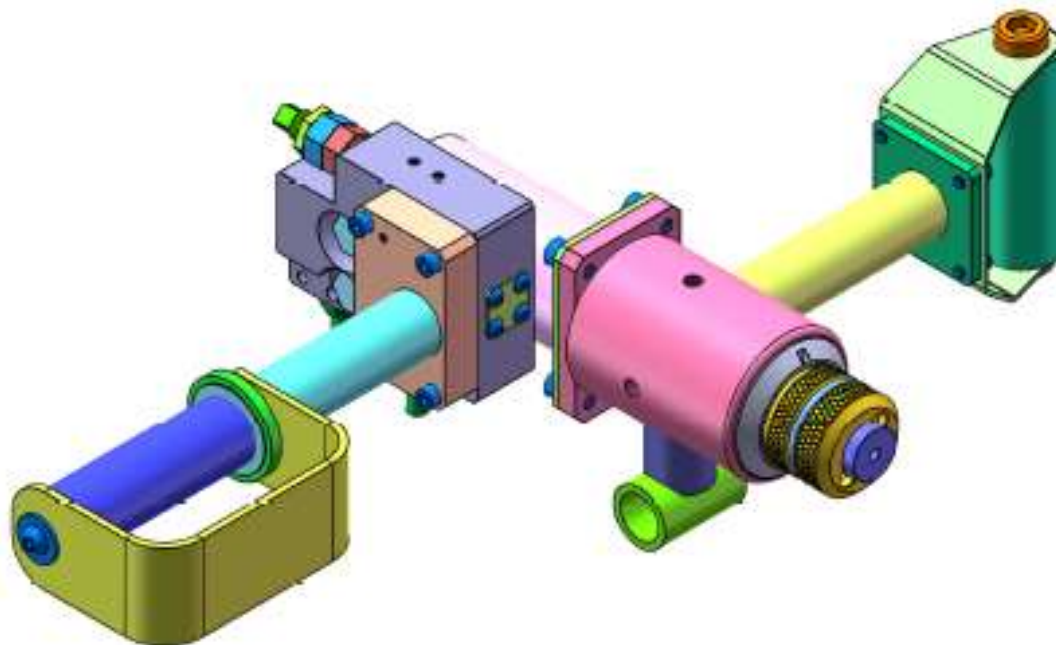
| | | |
|------------------------------|------------------------------------|----------|
| Number of impacts | min ⁻¹ | 1000±10% |
| Torque max | Nm | 1200±10% |
| Hydraulic operating pressure | MPa | 18 |
| Flow through | dm ³ .min ⁻¹ | 25 |
| Output square driver | | 3/4" |
| Weight | kg | 7.2 |

ANTI-EXPLOSIVE VEN 42 SERIES EMULSION DRILLS

DESCRIPTION:

The anti-explosive VEN 42 series emulsion drill is used to drill into coal and medium-soft rocks using spiral drill rods with up to 42 mm diameter.

The anti-explosive VEN 42 emulsion drill consists of the pipe frame with control, emulsion motor and the mandrel for attachment of a drill rod.



TECHNICAL PARAMETERS:

| | | |
|---|--------------------------------------|------------|
| Max. operating pressure | [MPa] | 30 |
| Torque at 30MPa | [Mk] | 62 |
| Flow through rate at 400min ⁻¹ | [dm ³ min ⁻¹] | 25 |
| Drilling diameter coal/steel | [mm] | 48 |
| Filtration | [µm] | 100 |
| Mandrel revolutions | [m/min ⁻¹] | 100 - 1250 |
| Weight | [kg] | approx. 8 |

PHP 300 HYDRAULIC DIRECT

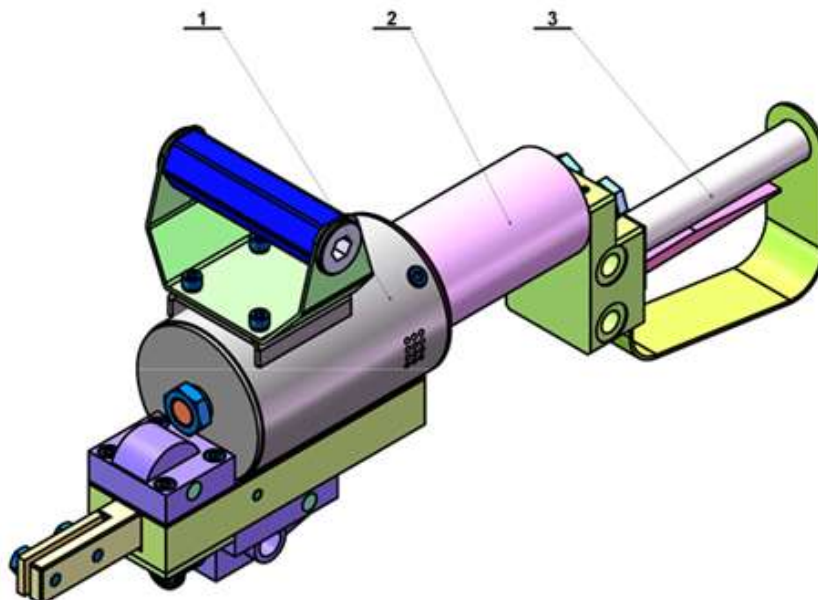
DESCRIPTION:

The PHP 300 hydraulic direct saw is used for cutting and dividing of materials in heavy duty operations. Saw oscillations are caused by a cam mechanism that is driven by a multiple-plate motor.

The PHP 300 hydraulic direct saw does not contain any light metal alloys; therefore it can be used in the explosion danger environment.

The saw consists of the following basic parts:

- Body with the cam mechanism
- Hydraulic motor
- Handle with controls



TECHNICAL PARAMETERS:

| | | |
|----------------------------|------------------------|--------|
| Operating pressure | [MPa] | 30 |
| Maximum output | [kW] | 2 |
| Flow through amount of oil | [l/min ⁻¹] | 9 - 18 |
| Dimensions of cut material | [mm] | 300 |
| Filtration | [μm] | 25 |
| Number of oscillations | [min-1] | 250 |
| Weight (saw + attachment) | [kg] | 12,5 |
| Saw blade travel | [mm] | 65 |

HYDRAULIC BAND SAW PHP 80

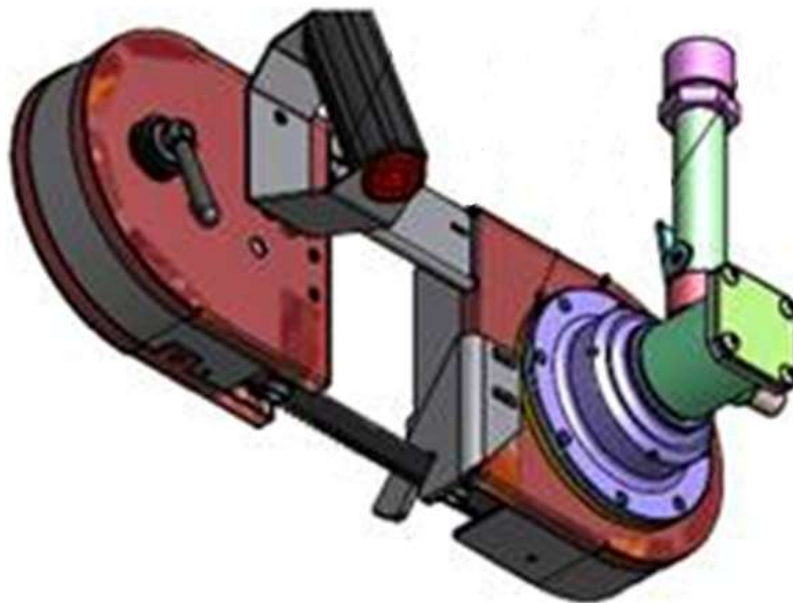
DESCRIPTION:

The PHP 80 hydraulic band saw is used for cutting and dividing of materials in heavy duty operations. The saw band or cut material do not need to be cooled while sawing. The saw band movement is transferred using two pulleys that are driven by a hydraulic motor with control.

The hydraulic band saw PPP 80 does not contain light metal alloys and therefore can be used in the explosive danger environment.

The saw consists of the following basic parts:

- Saw frame - stainless steel
- Hydraulic motor with control
- Planetary transmission



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------|---------|
| Operating pressure | [MPa] | 30 |
| Maximum output | [kW] | 2 |
| Flow through amount of oil | [l/min ⁻¹] | 9 - 18 |
| Dimensions of cut material | [mm] | 80 x 80 |
| Filtration | [μm] | 25 |
| Band speed | [m/min ⁻¹] | 65 |
| Weight (saw + attachment) | [kg] | 9 |
| Inside diameter of the supply hose | [mm] | 10 |

PHP 120 AND PHP 180 HYDRAULIC BAND SAWS

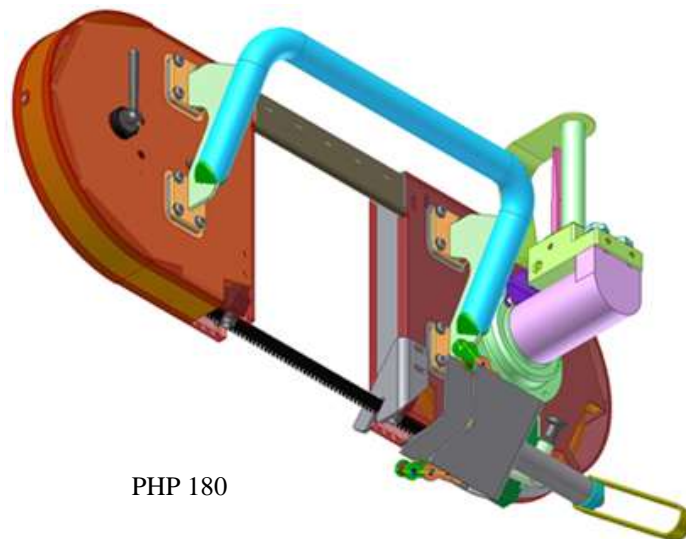
DESCRIPTION:

The PHP 120 and PHP 180 hydraulic band saws are used to saw and divide materials in heavy duty operations. The saw band or cut material do not need to be cooled while sawing. The saw band movement is transferred using two pulleys that are driven by a hydraulic motor with control.

The pneumatic band saws of PHP type do not contain light metal alloys and therefore can be used in the explosive danger environment.

The saws consist of the following basic parts:

- Saw frame - stainless steel
- Hydraulic motor with control
- Planetary transmission



PHP 180

TECHNICAL PARAMETERS:

| | | PHP 120 | PHP 160 | PHP 180 |
|-----------------------------------|-------------------------|-----------|-----------|------------|
| Operating pressure | [MPa] | | 30 | |
| Max. output | [kW] | | 2 | |
| Flow through amount of oil | [l/min ⁻¹] | | 9 - 18 | |
| Dimensions of cut material | [mm] | 120 x 127 | 160 x 127 | 180 x 180 |
| Filtration | [µm] | | 25 | |
| Band speed | [m/min ⁻¹] | | 65 | |
| Weight | [kg] | 12 | 12,5 | 14,8 + 2,5 |
| Connection of the hydraul. system | [mm] | | 10 | |

PHP 200, PHP 270 HYDRAULIC BAND SAWS

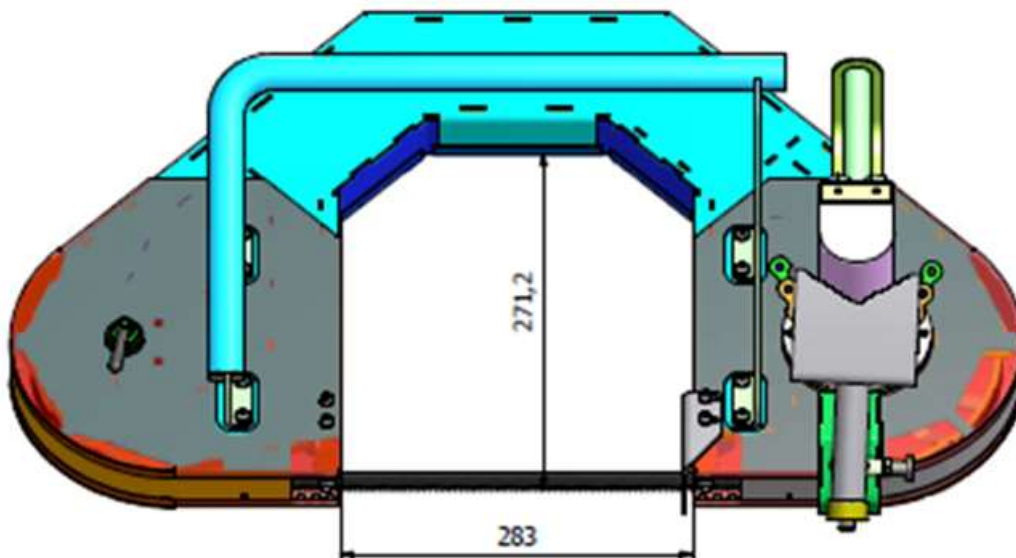
DESCRIPTION:

The PHP 200, PHP 270 hydraulic band saws are used to saw and divide materials in heavy duty operations. The saw band or cut material do not need to be cooled while sawing. The saw band movement is transferred using two pulleys that are driven by a hydraulic motor with control.

The hydraulic band saws of PHP type do not contain light metal alloys and therefore can be used in the explosive danger environment.

The saws consist of the following basic parts:

- Saw frame - stainless steel
- Hydraulic motor with control
- Planetary transmission



TECHNICAL PARAMETERS:

| | | PHP 200 | PHP 270 |
|-----------------------------------|-------------------------|-----------|-----------|
| Operating pressure | [MPa] | 30 | 30 |
| Max. output | [kW] | 2 | 2 |
| Flow through amount of oil | [l/min ⁻¹] | 9 - 18 | 9 - 18 |
| Dimensions of cut material | [mm] | 219 x 190 | 280 x 270 |
| Filtration | [µm] | 25 | 25 |
| Band speed | [m/min ⁻¹] | 65 | 65 |
| Weight | [kg] | 14,5 + 3 | 22 + 3 |
| Connection of the hydraul. system | [mm] | 10 | 10 |

HYDRAULIC HAMMER LH 11

DESCRIPTION:

The LH11 is a high performance light hydraulic jackhammer that is used for breaking down of concrete, bricks, walls, rocks, asphalt and other demolition a jackhammer type of work.

The LH11 is equipped by the closed “D” type handle that allows comfortable use in the vertical and horizontal positions. The “D” shape handle is provided with a special polyurethane coating to increase work comfort and also spring-cushioned to reduce vibrations.



TECHNICAL PARAMETERS:

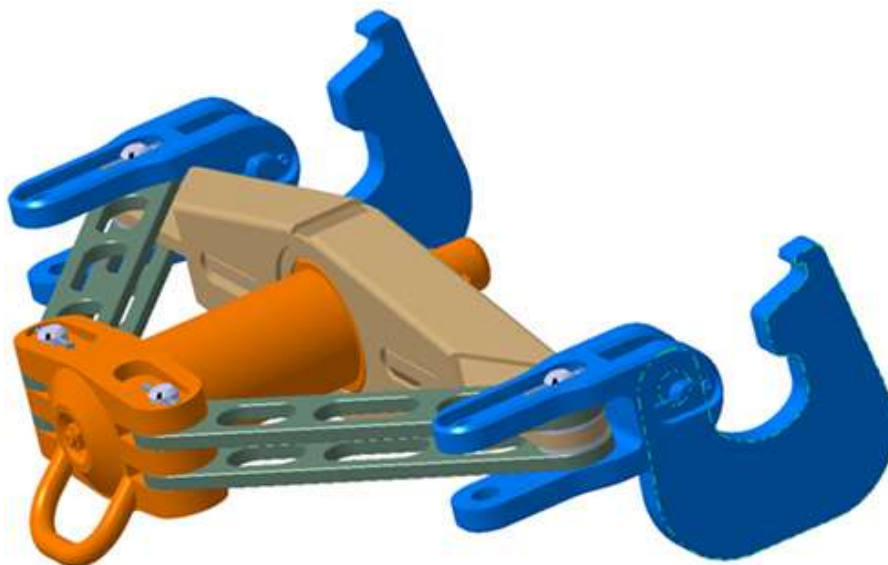
| | | |
|---|------------------|----------------------------|
| Weight | kg | 13,8 |
| Number of impacts | Hz | 40 |
| Vibration | m/s ² | 10,1 |
| Volume speed of hydraulic fluid | l/min | 18-22 |
| Operating volume speed of hydraulic fluid | l/min | 20 |
| Max. pressure of hydraulic fluid | bar | 160 |
| Pressure range | bar | 70-90 |
| Max. tolerated back pressure of hydraulic fluid | bar | 10 |
| Guaranteed level of acoustic output | dB | 107 |
| Recommended inlet hoses | mm | <15 Js – 1/2 SAE 100R1 |
| Tool stop | mm | #22 x 82 mm (7/8 x 3“ 1/4) |

OKH1 HYDRAULIC RAIL BENDER

DESCRIPTION:

The OKH1 hydraulic rail bender is a device designed for bending of rails to required angles of the Xa profile or bending of other profiles listed in the chart. Bending is conducted with the help of a hydraulic piston powered by a manual hydraulic pump AHR 70-1.

The bender consists of a single-acting hydraulic piston with a reversible spring and an exchangeable restraint, a frame with suspension shackles and exchangeable pulling clamps. The bender is connected to the AHR 70-1 pump with a 2m long hydraulic hose.



TECHNICAL PARAMETERS:

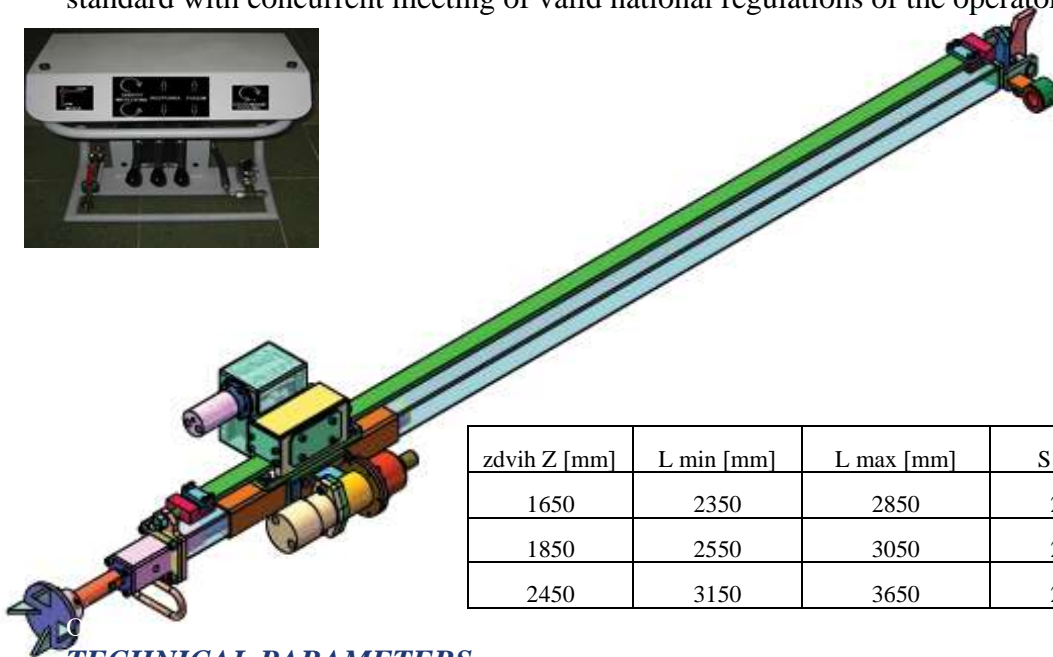
| | | |
|---|--------------------|------------------------------------|
| Max. working pressure | [MPa] | 50 |
| Max. bending force | [kN] | 318 |
| Working piston stroke | [mm] | 150 |
| Max. bended sectional module at max. yield point of the bended material $R_{e} = 314$ MPa | [cm ³] | 32 |
| Bended profiles | | rails: Xa; 115/24; 93/18 |
| Bended profiles | | sections and U-profile to max. 160 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | 889 x 440 x 180 |
| Weight without clamps | [kg] | 67,5 |
| Weight with the pump | [kg] | 67,5 + 15 |
| Connecting sockets | | M 18x1,5 |

VHS 1 – P2 HYDRAULIC DRILL RIG

DESCRIPTION:

The VHS 1 – P2 drill rig consists of a portable drill intended for drilling holes in rocks with consequent installation of bolting in deep mines, underground construction and other applications, and a separate control panel. The drill rig is powered by the AG 63/16Z hydraulic aggregate. With regard to its modular construction and low weight it is also suitable for operative use in hard to reach areas. It very simply allows changing the drill length and related depth of the hole and exchange of drilling tools in dependence on mining and geologic conditions.

The VHS 1 – P2 drill rig is designed for the group I, category M2 equipment according to the European Parliament and Council Directive 94/9/EC - ATEX and meets conditions for use in "dangerous atmospheric conditions 2" according to the EN 1127-2+A1 standard with concurrent meeting of valid national regulations of the operator.



| zdvih Z [mm] | L min [mm] | L max [mm] | S [mm] | V [mm] |
|--------------|------------|------------|--------|--------|
| 1650 | 2350 | 2850 | 2000 | 1640 |
| 1850 | 2550 | 3050 | 2200 | 1840 |
| 2450 | 3150 | 3650 | 2440 | 2440 |

TECHNICAL PARAMETERS:

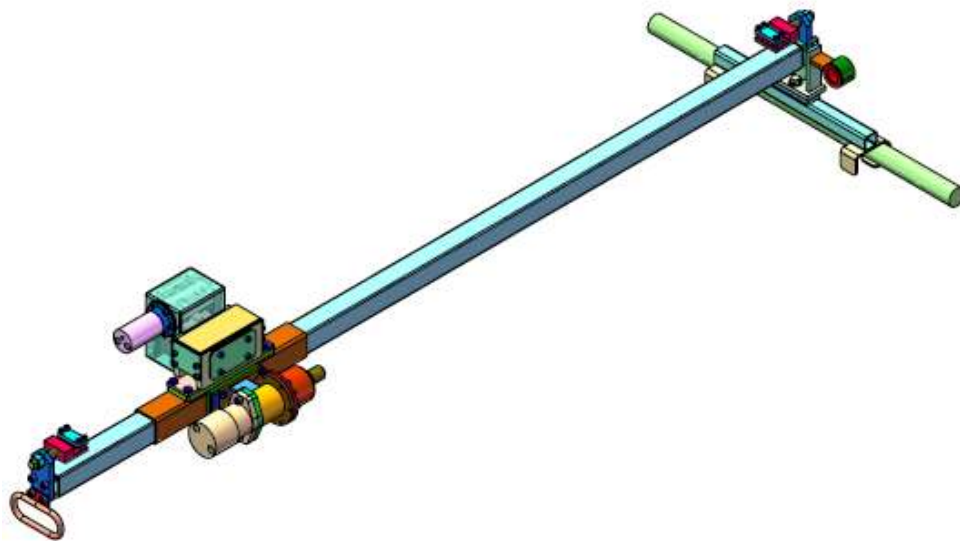
| | | |
|-----------------------------|--------------------------------------|----------|
| Pressure of hydraulic fluid | [MPa] | 17 |
| Water supply pressure | [MPa] | 1,2 |
| Maximum torque | [Nm] | 440 |
| Flow through amount of oil | [dm ³ min ⁻¹] | 60 |
| Thrust cylinder travel | [mm] | 500 |
| Filtration | [µm] | 50 |
| Tool stop | [mm] | 22 x 108 |
| Weight drill | [kg] | 57 |
| Weight of the control panel | [kg] | 36 |
| Min. length of the drill | [mm] | 1900 |

PORTABLE DRILL RIG VHS 1 – P1

DESCRIPTION:

The VHS 1-P1 portable drill rig is used to drill up to 260 mm holes in deep mine rocks. The drill rig is operated together with the control panel.

The VHS 1 – P1 drill rig is designed for the group I, category M2 equipment according to the European Parliament and Council Directive 94/9/EC - ATEX and meets conditions for use in “dangerous atmospheric conditions 2” according to the EN 1127-2+A1 standard with concurrent meeting of valid national regulations of the operator.



TECHNICAL PARAMETERS:

| | | |
|--------------------------------------|--------------------------------------|----------------------------|
| Work medium operation pressure | [MPa] | 30 |
| Operational water pressure | [MPa] | 1,2 |
| Maximum torque | [Nm] | 170 - 440 |
| Liquid flow rate at 300 rpm | [dm ³ min ⁻¹] | 66 |
| RPMs | [min ⁻¹] | 290 – (700) |
| Drilling diameter | [mm] | up to 260 mm |
| Work medium | | HFA emulsion, min. to 1.5% |
| Max. rise | [mm] | 1 750 |
| Filtration | [µm] | 50 |
| Travel speed w/out load | [ms ⁻¹] | 0.1 – 0.2 |
| Drill weight without special console | [kg] | 65 |
| Weight of the control panel | [kg] | 36 |
| Drill rods | | CR 33.5 |

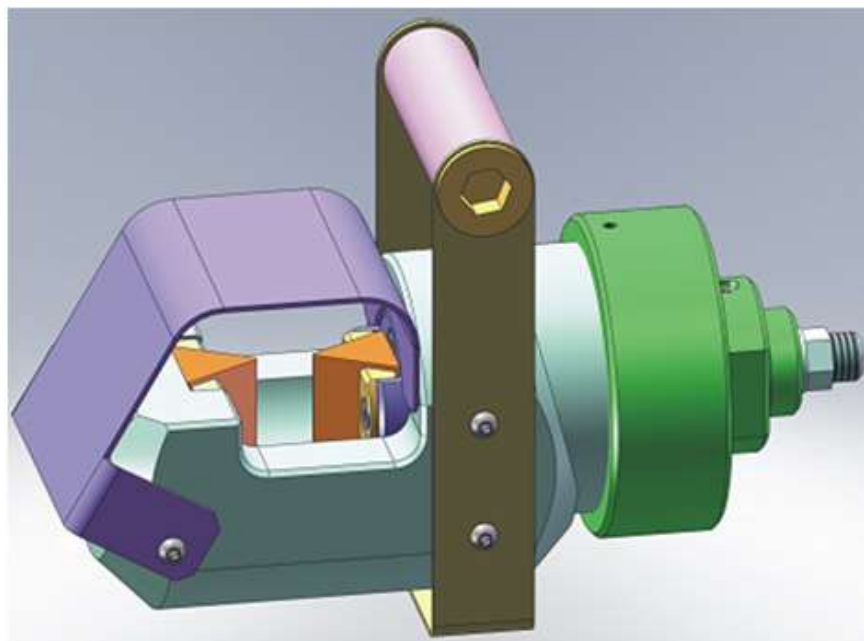
SR 20 CHAIN CUTTER

DESCRIPTION:

The SR 20 chain cutter is a device that is designed for cutting of high-strength chains up to the link diameter of 20mm with the maximum strength of used material of 1.100 MPa. The cutter is powered from its own pressure source (the AHR 70 manual/foot operated pump).

The SR 20 cutter consists of the following basic parts:

- Piston assembly
- Cutter body
- Back cover



TECHNICAL PARAMETERS:

| | | |
|--|------------|-----------|
| Max. working pressure of hydraulic fluid | [MPa] | 70 |
| Maximum shear force | [kN] | 335 |
| Maximum diameter of cut chain link | [mm] | 20 |
| Max. strength of cut chain link material | [MPa] | 1.100 |
| Filtration | [μ m] | 50 |
| Basic dimensions (w x l) | [mm] | 120 x 309 |
| Weight | [kg] | 12 |
| Weight with the pump | [kg] | 12 + 15 |
| Connecting sockets | | M 18x1,5 |

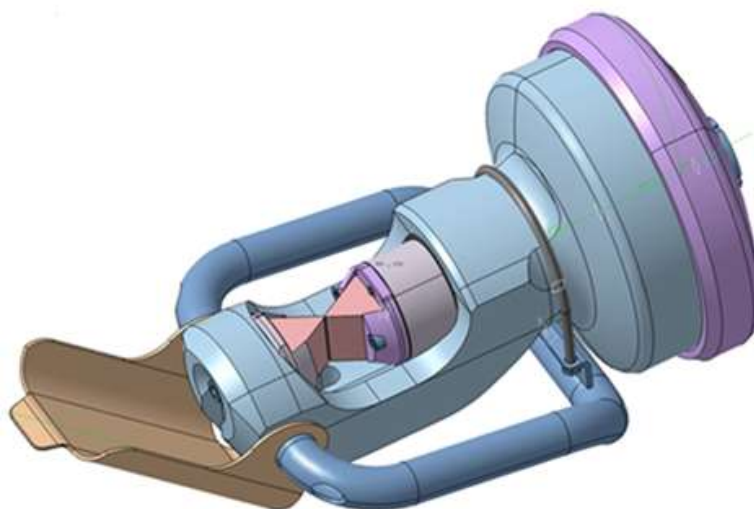
SR 42 CHAIN CUTTER

DESCRIPTION:

The SR 42 chain cutter is a device that is used for cutting of high-strength chains up to the link diameter of 42mm and 46mm flat chains with the maximum strength of used material 1.200 MPa. The cutter is powered either by water emulsion (central distribution 32MPa) or its own pressure source (the AHR 700 manual/foot operated pump). When it is powered from the central distribution, it is controlled by the control unit - three way valve that can be placed (for safety reasons) in any distance from the cutter.

The SR 42 cutter consists of the following basic parts:

- Piston assembly
- Cylinder with cover
- Shoe with cover
- Complete return mechanism



TECHNICAL PARAMETERS:

| | | |
|--|------------|-----------|
| Max. working pressure of hydraulic fluid | [MPa] | 32 |
| Maximum shear force | [kN] | 1.200 |
| Maximum diameter of cut chain link | [mm] | 42 |
| Maximum diameter of cut flat chain link | [mm] | 46 |
| Max. strength of cut chain link material | [MPa] | 1.200 |
| Filtration | [μ m] | 50 |
| Basic dimensions (w x l) | [mm] | 290 x 595 |
| Weight | [kg] | 60 |
| Weight with the pump | [kg] | 60 + 9 |
| Connecting sockets | | M 18x1,5 |

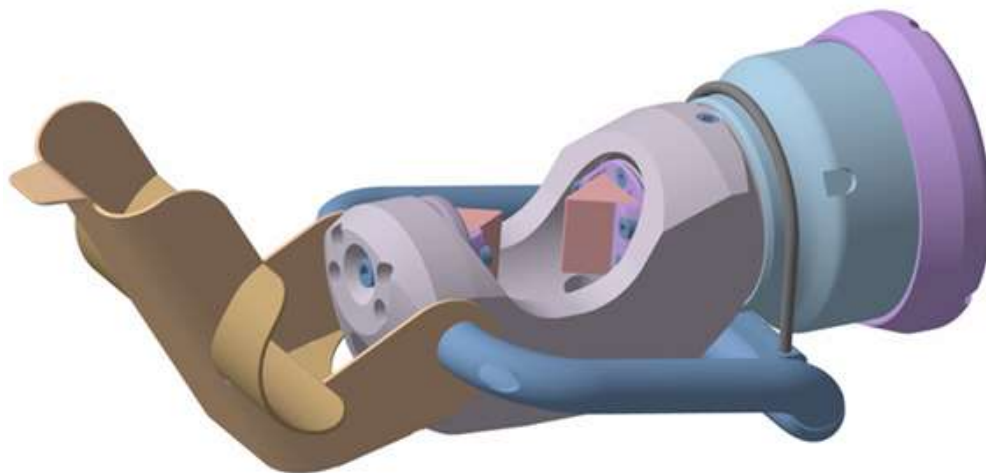
HYDRAULIC CHAIN CUTTER SRH 42

DESCRIPTION:

The SRH 42 chain cutter is a device that is used for cutting of high-strength chains up to the link diameter of 42mm and 46mm flat chains with the maximum strength of used material 1200 MPa. The cutter is powered by a hydraulic hand/foot AHR 700 pump. Movement of the piston to the basic position is performed by a reverse mechanism with spring

The SRH 42 cutter consists of the following basic parts:

- Piston assembly
- Cylinder with cover
- Shoe with cover
- Complete return mechanism



TECHNICAL PARAMETERS:

| | | |
|--|------------|-----------|
| Maximum operational pressure | [MPa] | 72 |
| Maximum shearing force | [kN] | 1370 |
| Maximum diameter of cut chain link | [mm] | 42 |
| Maximum diameter of cut flat chain link | [mm] | 46 |
| Max. strength of cut chain link material | [MPa] | 1200 |
| Filtration | [μ m] | 50 |
| Basic dimensions (w x l) | [mm] | 293 x 446 |
| Weight | [kg] | 45 |
| Weight with pump | [kg] | 45 + 9 |
| Connection openings | | M18x1.5 |

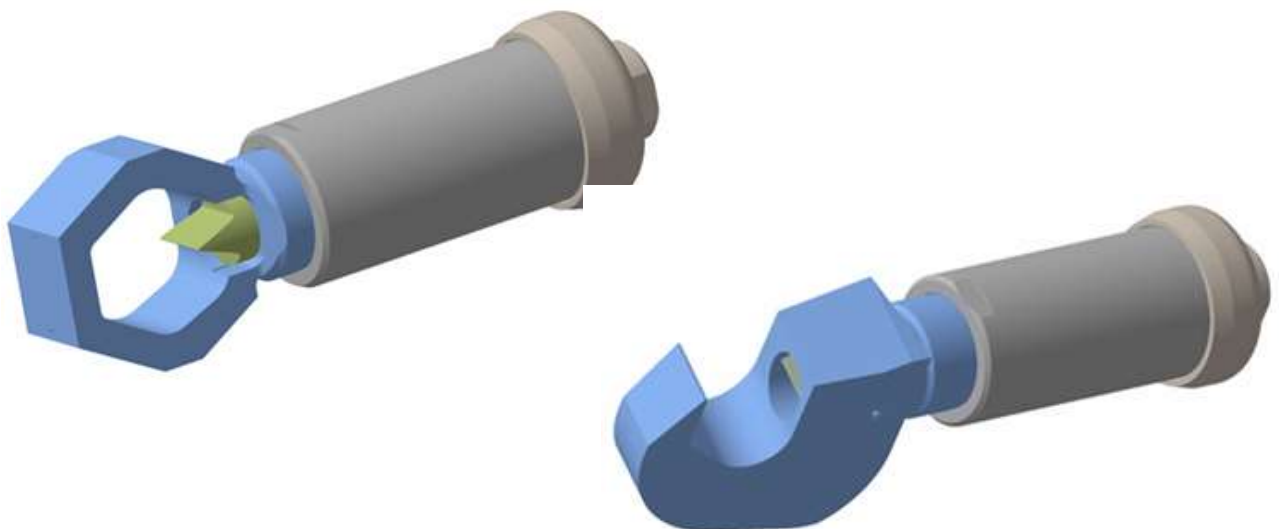
RMH 30 AND RMR 30 NUT BREAKERS

DESCRIPTION:

The RMH 30 and RMR 30 nut breakers are devices that are used for breaking – cutting of M16 to M30 nuts. The RMH 30 hydraulic nut breaker is powered by pressure from the AHR 70 manual hydraulic pump. The RMR 30 manual nut breaker is manually operated with the use of a ratchet wrench via manual-hydraulic transmission.

The RMH 30 and RMR 30 nut breakers consist of the following basic parts:

- Breaker body
- Breaking adapter with a knife (open, closed, ...)
- Ratchet wrench



TECHNICAL PARAMETERS:

| | | |
|--|-------|-------------|
| Max. working pressure of hydraulic fluid | [MPa] | 70 |
| Working range of cut bolts | [mm] | M 16 – M 30 |
| Max. strength of nuts | [MPa] | 600 |
| Filtration | [µm] | 50 |
| Basic dimensions (w x l) | [mm] | 90 x 300 |
| Weight | [kg] | approx. 5 |
| Weight with the pump | [kg] | approx. 20 |
| Connecting sockets | | M 18x1,5 |

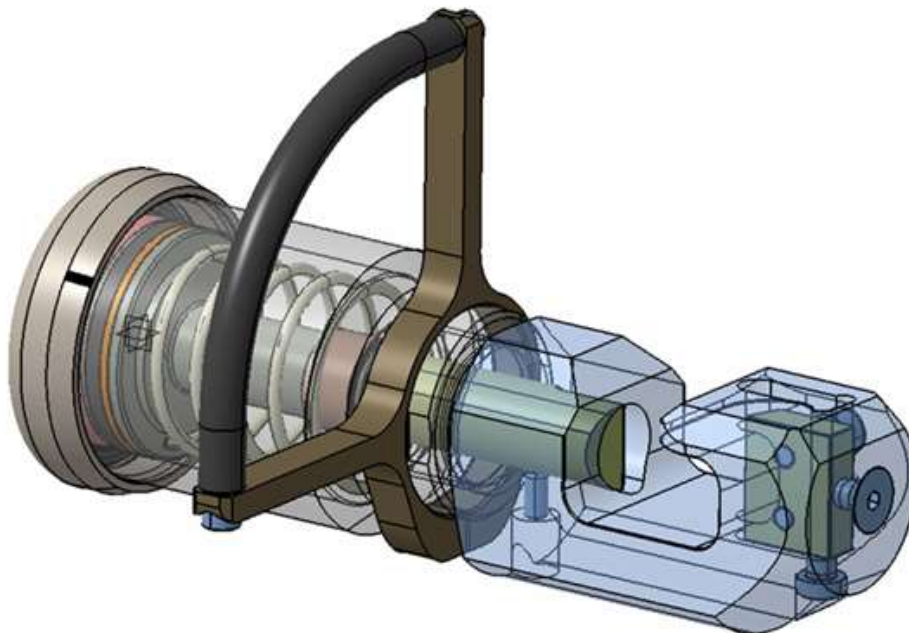
HYDRAULIC STUD CUTTER SSH 25

DESCRIPTION:

The hydraulic stud cutter SSH 25 is a device that is designed to cut rope studs of up to 25 mm diameter. The SSH 25 hydraulic stud cutter is driven by pressure from the AHR 70 manual hydraulic pump.

The SSH 25 hydraulic stud cutter consists of the following basic parts:

- Cutter body
- Cutting head with a knife



TECHNICAL PARAMETERS:

| | | |
|-------------------------------|-------|-----------------|
| Maximum working pressure | [MPa] | 70 |
| Maximum diameter of cut stud | [mm] | 25 |
| Maximum stud strength | [MPa] | 1850 |
| Filtration | [µm] | 50 |
| Basic dimensions (w x h x l) | [mm] | 180 x 190 x 345 |
| Weight | [kg] | approx. 14 |
| Shear force at 70MPa pressure | [kN] | 300 |
| Connection sockets | | M 18x1,5 |

AHR 70-1, AHR 70-2 AND AHR 250-1 MANUAL HYDRAULIC AGGREGATES

DESCRIPTION:

The AHR 70 and AHR 250 manual hydraulic aggregates (“aggregates”) are designed for powering of hydraulic devices such as hydraulic cylinders, shears, presses and so on. The aggregates consist of a tank, a body, a control lever and an outlet screw fittings. The AHR 70-2 and AHR-250-1 types are additionally equipped with a pressure gauge.

The AHR manual hydraulic aggregates do not contain light metal alloys can be used in environment with risk of explosion.



TECHNICAL PARAMETERS:

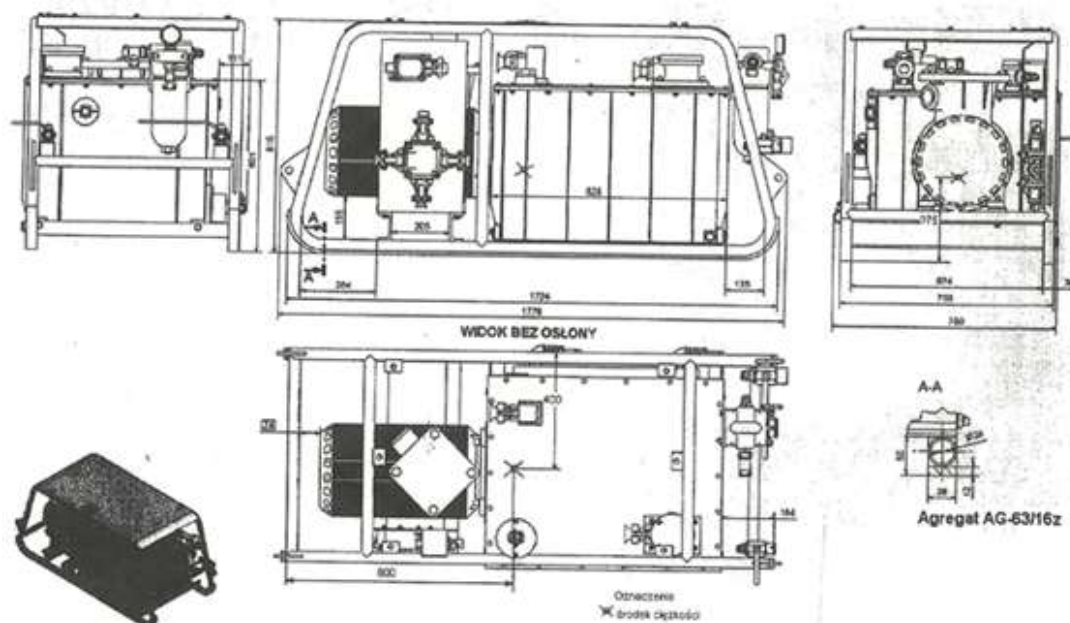
| | | AHR 70-2/1 | AHR 70-2/2 | AHR 250-1 |
|-------------------------------------|-------|--|------------|-------------|
| Working pressure of hydraulic fluid | [MPa] | 70 | 70 | 250 |
| Working liquid | | hydraulic oil for hydrostatic mechanisms with the viscosity of 22, 32 or 46 mm ² .s ⁻¹ at 40°C | | |
| Ambient temperature | [°C] | -10 to + 50 | | |
| Basic dimensions | [mm] | | | 790x120x180 |
| Tank volume | [l] | 2,7 | 3 | 1,7 |
| Weight | [kg] | 15 | 17 | 20 |

AG-63/16Z HYDRAULIC AGGREGATE

DESCRIPTION:

The AG-63/16Z hydraulic aggregate is intended for powering of mining machinery and equipment. Additional effective cooling is applied for the VPS 01 drill rig operated under more demanding climatic conditions during longer use.

The AG-63/16Z hydraulic aggregate is designed for the group I, category M2 equipment according to the European Parliament and Council Directive 94/9/EC - ATEX and meets conditions for use in "dangerous atmospheric conditions 2" according to the EN 1127-2+A1 standard with concurrent meeting of valid national regulations of the operator.



TECHNICAL PARAMETERS:

| | | |
|-----------------------------|--------------------------------------|-----------------|
| Pressure of hydraulic fluid | [MPa] | 17 |
| Tank volume | [dm ³] | 200 |
| Flow through amount of oil | [dm ³ min ⁻¹] | 63 |
| Working liquid | | olej, HPL VG-46 |
| Electric motor | [kW] | 22 |
| Electric motor voltage | [V] | 500 |
| Basic dimensions | [mm] | 750x800x1780 |
| Weight without oil | [kg] | 550 |
| Outlet of discharge branch | [mm] | 20 |
| Outlet of back branch | [mm] | 25 |

NMR MANUAL TORQUE BOOSTER

DESCRIPTION:

The NMR manual torque booster (multiplier)s are used for loosening and tightening of bolt connections in the heavy industry. The tightening torque is caused by a ratchet wrench that transfers the torque to the outlet 1" driver using planetary gears. The exact setting of torque is done by a torque wrench.

The NMR manual torque boosters (multiplier) do not contain light metal alloys and are approved for the explosive danger environments (EX I M2 c IIB 95C X and EX II 2 GD c IIB 95C according to the new European standard 94/9/EC and the 1999/92/EC standard – usually called ATEX).



TECHNICAL PARAMETERS:

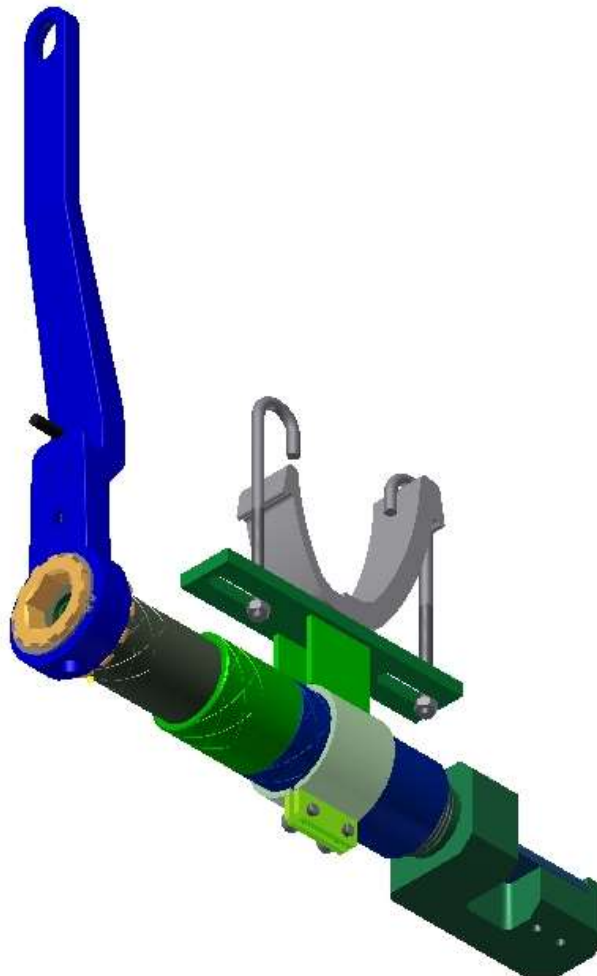
| | | NMR 15 | NMR 20 | NMR 25 | NMR 35 | NMR 40 | NMR 15 |
|------------------|------|------------|----------|----------|----------|----------|-----------|
| Maximum torque | [Nm] | 1 700 | 1 815 | 2 300 | 3 600 | 4 000 | 1 700 |
| Gear ratio | | 1 : 4 | 1 : 12 | 1 : 10 | 1 : 14 | 1 : 15 | 1 : 4 |
| Inlet driver | [mm] | 3/4" | | | | | |
| Outlet driver | [mm] | 1" | 1" | 1" | 1" | 1 1/2" | 1 1/2" |
| Basic dimensions | [mm] | 172 x 81 | 230 x 81 | 303 x 81 | 273 x 81 | 238 x 95 | 244 x 114 |
| Weight | [kg] | 3 | 5 | 6 | 5,5 | 7 | 9 |
| Accessory | | Stop block | | | | | |

SRR 16 HAND CHAIN CUTTER

DESCRIPTION:

The SRR 16 hand chain cutter is designed to cut chains and other profiles up to the material strength of 600MPa.

The SRR 16 hand chain cutter consists of a body with a manual-hydraulic transmission, a cutting head with knives and a ratchet lever. The cutter is portable with a possibility of attachment to mine supports.



TECHNICAL PARAMETERS:

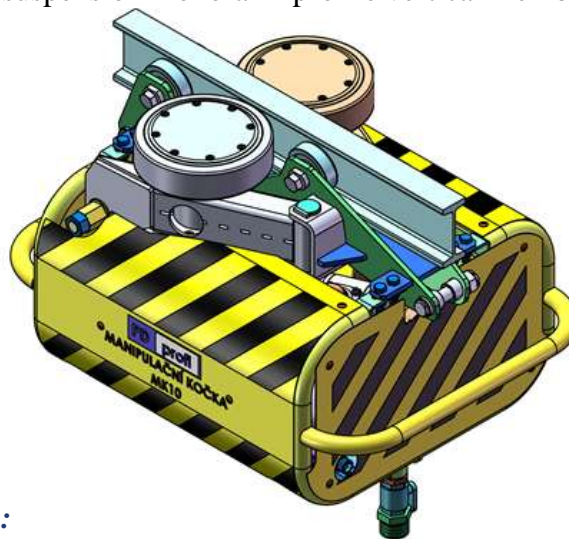
| | | |
|--|-------|----------------|
| Max. working pressure of hydraulic fluid | [MPa] | 75 |
| Working range | [mm] | 0 – 16mm |
| Max. strength of cut material | [MPa] | 600 |
| Basic dimensions (w x l) | [mm] | 90 x 410 |
| Weight | [kg] | approx. 10,5 |
| Accessory | | ratchet wrench |

MK P1X HANDLING TROLLEY

DESCRIPTION:

The MK P1X handling trolley (“trolley”) is an air powered tool for manipulation with loads suspended on carts moving along the ZD 24 suspension monorail or its modifications for short distances.

The trolley is equipped with a lever or push control suspended on supply hoses. It works on the principle of movement transfer from the driving wheels which are pushed against both sides of the ZD 24 suspension monorail I profile vertical member.



TECHNICAL PARAMETERS:

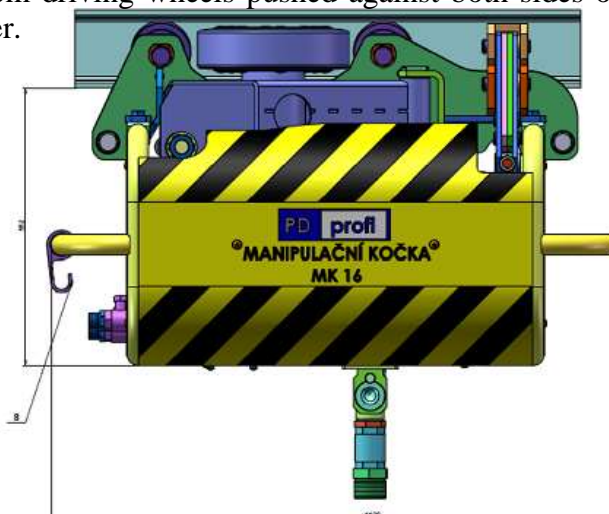
| | | | |
|---|-------------------------|-------------------------|--------------------------|
| Nominal traction force | [N] | P11 – 16 000 | P12 – 22 000 |
| Brake force | [N] | 20 000 | 20 000 |
| Max. travel speed on ground plane | [m.min. ⁻¹] | 24 | 16 |
| Installed power supply – 0,6MPa | [kW] | 2 x 3,5 | |
| Maximum track incline | [°] | ± 30° | |
| Working air pressure | [MPa] | 0,35 – 0,6 | |
| Inside diameter of the supply hose | [mm] | 32 | |
| Track type | | ZD 24, I 155 | |
| Basic dimensions (h x w x l) | [mm] | 800 x 784 x 1.126 | |
| Weight | [kg] | 390 | 450 |
| Max. weight of pulled load (with friction coefficient 0.1) | [kg] | Incline 0° 16.000 | Incline 0° 22.000 |
| | | Incline 5° 11.799 | Incline 5° 16 500 |
| | | Incline 10° 8.084 | Incline 10° 12 100 |
| | | Incline 15° 6.190 | Incline 15° 9 280 |
| | | Incline 20° 5.046 | Incline 20° 7 500 |
| | | Incline 25° 4.286 | Incline 25° 6 400 |
| | | Incline 30° 3.750 | Incline 30° 5 157 |

MK P2X HANDLING TROLLEY

DESCRIPTION:

The MK P2X handling trolley (further called only the trolley) is an air powered tool for manipulation with loads hanging on carts moving on the ZD 24 hanging track or its modifications for short distances. Compared to the previous type MK 10 has a separate brake jaw and increased braking force 25kN.

The trolley is equipped by a lever control hanging on supply hoses. It work on the principle of transfer of movement from driving wheels pushed against both sides of ZD 24 hanging track I profile vertical member.



TECHNICAL PARAMETERS:

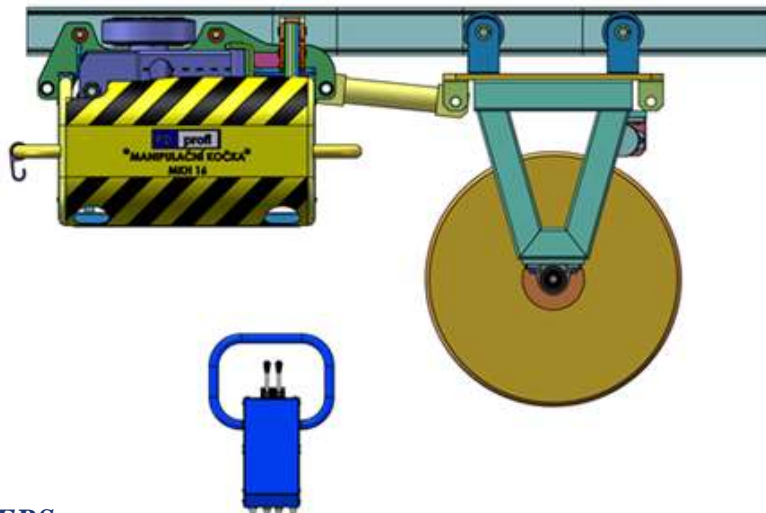
| | | | |
|---|-------------------------|-------------------------|-----------------------|
| Nominal traction | [N] | P 21 – 16 000 | P22 - 22 000 |
| Brake force | [N] | 22 000 | 30 000 |
| Max. travel speed on level surface | [m.min. ⁻¹] | 24 | 24 |
| Installed power supply – 0,6MPa | [kW] | 2 x 3,5 | |
| Maximum path incline | [°] | ± 30° | |
| Operating pressure | [MPa] | 0,35 – 0,6 | |
| Inside diameter of the supply hose | [mm] | 32 | |
| Used track | | ZD 24 | |
| Basic dimensions | [mm] | 800 x 784 x 1126 | |
| Weight | [kg] | 390 | 450 |
| Max. weight of pulled load (with friction coefficient 0.1) | [kg] | Incline 0°..... 16 000 | Incline 0°.... 22 000 |
| | | Incline 5° 11.799 | Incline 5° ... 16 500 |
| | | Incline 10°..... 8.084 | Incline 10°...12 100 |
| | | Incline 15° 6.190 | Incline 15° .. 9 280 |
| | | Incline 20° 5.046 | Incline 20° ... 7 500 |
| | | Incline 25° 4.286 | Incline 25° ...6 400 |

MKH 16 – 16 000N HYDRAULIC HANDLING TROLLEY

DESCRIPTION:

The MK 16 handling trolley (further called only the trolley) is an air powered tool for manipulation with loads hanging on carts moving on the ZD 24 hanging track or its modifications for short distances. The trolley is supplied through the winding drum by 5 m long hydraulic hoses from the AG-63/16Z hydraulic aggregate.

The trolley is equipped by a lever control hanging on supply hoses. It work on the principle of transfer of movement from driving wheels pushed against both sides of ZD 24 hanging track I profile vertical member.



TECHNICAL PARAMETERS:

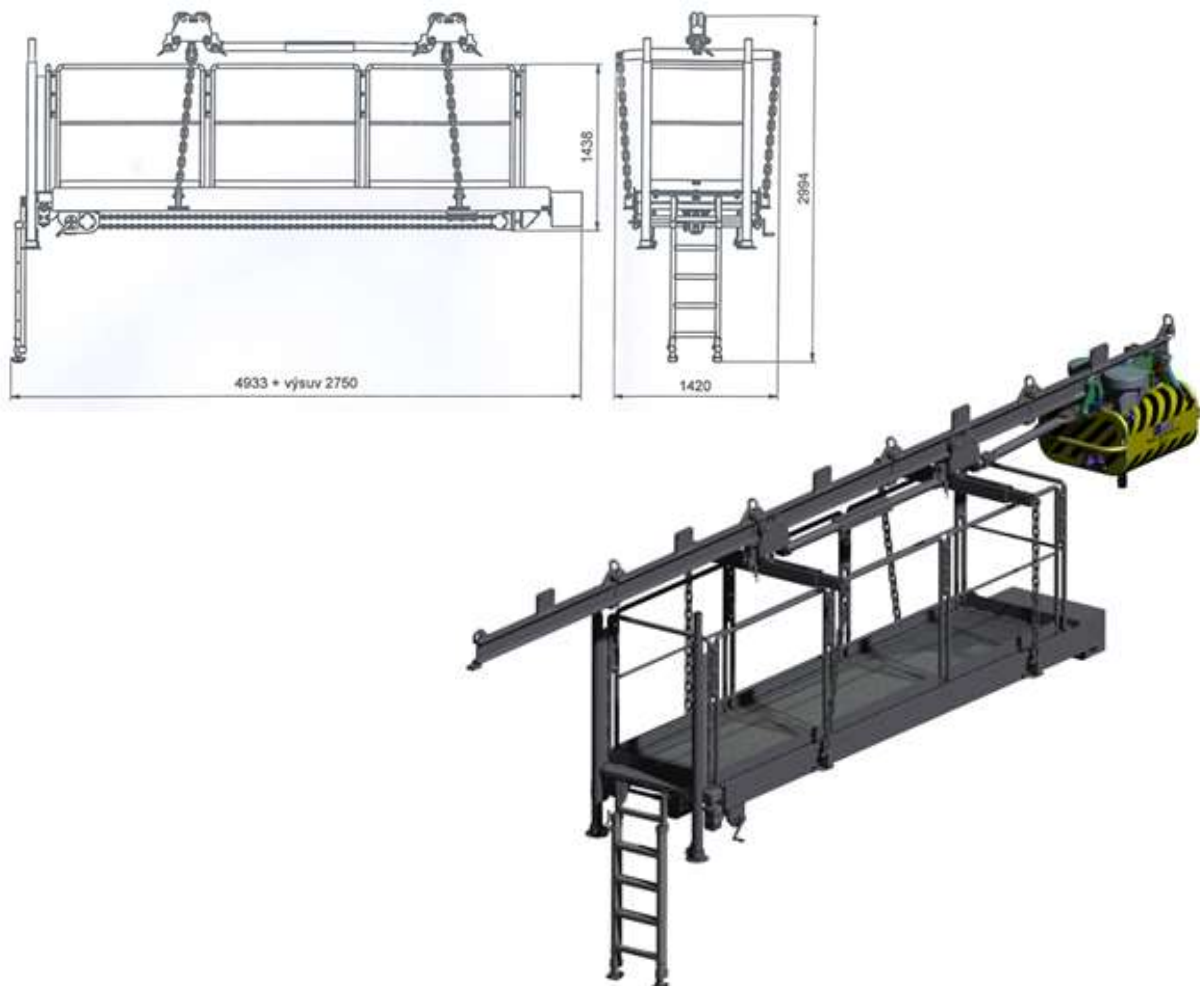
| | | |
|---|-------------------------|--|
| Nominal traction | [N] | 16 000 |
| Brake force | [N] | 20 000 + 20 000 |
| Max. travel speed on level surface | [m.min. ⁻¹] | 24 |
| Pressure medium | | Oil 46mm ² /s |
| Maximum path incline | [°] | ± 25° |
| Operational oil pressure | [MPa] | 16 |
| Inside diameter of the supply hose | [mm] | 16 |
| Used track | | ZD 24, ZD 24 A, ZD 24 B |
| Dimensions – h x w x l | [mm] | 800 x 800 x 950 |
| Weight | [kg] | approx. 350 + 150 |
| Max. weight of pulled load (with the friction coefficient 0.1) | [kg] | Incline 0° 16 000 Incline 5° 8 566 Incline 10° 5 880 Incline 15° 4 502 Incline 20° 3 670 |

HANGING WORK PLATFORM

DESCRIPTION:

The hanging work platform (hereinafter only platform) is an equipment moving on an “I” profile of the travelling track ZD 24 thanks to the handling trolley with pneumatic drive MK 16 or with hydraulic drive MKH 16. The platform is used for building, disassembling or controlling the travelling track.

The technological mining platform is used for equipment of mine galleries. It is basically a moving floor, hanging on two pendent trails, adjustable in vertical movement. From the platform, it is possible to do all different works in necessary height, transport instruments and build arches for mining supports. It is delivered in two different designs.



TECHNICAL PARAMETERS:

| | | |
|------------------------|------|--------------------------|
| Loading | [kg] | 400kg |
| Maximum path incline | [°] | ± 18° |
| Used track | | ZD 24, ZD 24 A, ZD 24 B |
| Dimensions – h x w x l | [mm] | 4933(7683) x 1420 x 1438 |
| Weight | [kg] | 1875 |

MINE TECHNOLOGY PLATFORM

DESCRIPTION:

The mine technology platform is used to equip tunnels in mines. Basically it is a mobile floor that is hung on two hanging rails and adjustable in the vertical direction. Various operations at needed height, like transport of tools and material and setting of mining support arches, can be done from this platform. The platform is supplied in two versions: The P1 version is 4735 mm wide and it is intended for 30m² profiles. The P2 version is 3735 mm wide and it is intended for 20m² profiles. The platforms are pneumatically driven. Their movement along the rails is provided by two pneumatic MK10 trolleys, lifting of the platform is done by four mobile hoists. The platform pneumatic control system allows continuous regulation of all device functions. The maximum lengthwise incline of a mining work is allowed in the range of $\pm 12^\circ$, the maximum cross incline of the mine work is $\pm 5^\circ$. The platform is safeguarded against running away by two brake carts. The work lengthwise incline of the platform is limited by the range of $\pm 4^\circ$, the maximum allowed crosswise incline of the equipment is $\pm 3^\circ$. The platform in a working position can be horizontally and vertically fixed against movement.



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------|---------------------------|
| Nominal traction force | [N] | 32 000 |
| Brake force | [N] | 44 000 |
| Max. travel speed on level surface | [m.min. ⁻¹] | 24 |
| Maximum path incline | [°] | $\pm 12^\circ$ |
| Operational pressure | [MPa] | 0,4 |
| Inside diameter of the supply hose | [mm] | 50 |
| Used tracks | | ZD 24, ZD 24 A, ZD 24 B D |
| Dimensions w x l | [mm] | 4735 (3735) x 6686 |
| Weight | [kg] | 6400 |

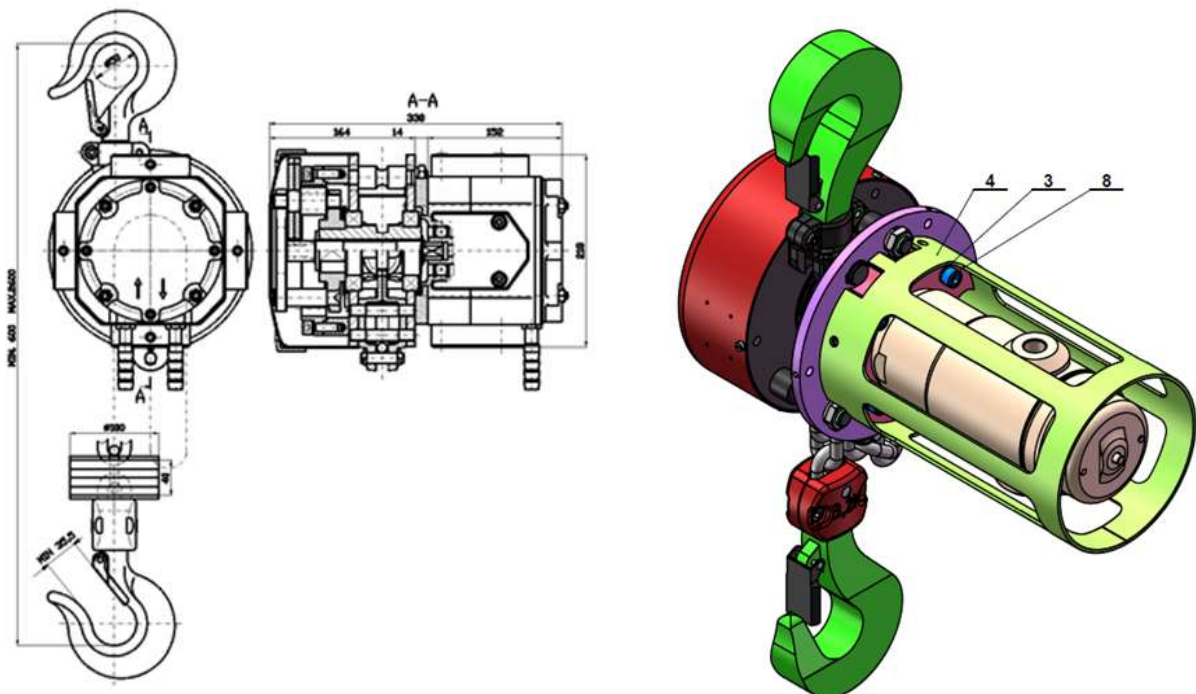
Z 295 PNEUMATIC MANIPULATION DEVICE 1,6t, 3,2t, 5t

DESCRIPTION:

The Z 295 pneumatic manipulation device is used for vertical lifting and lowering of loads in places with pressure air supply.

The Z 295 pneumatic manipulation device consists of the following basic parts:

- Body with the hook assembly 1,6t, 3,2t, 5t
- Pneumatic motor MPP2, MPL 3



TECHNICAL PARAMETERS:

| | | | | |
|------------------------------------|-----------------------------------|----------|---------|-----|
| Loading | [t] | 1,6 | 3,2 | 5 |
| Load chain | [mm] | 9 x 27 | 11 x 31 | |
| Operating pressure | [MPa] | 0,45-0,6 | | |
| Nominal motor output | [kW] | 2 | 3 | |
| Lifting speed | [m.mim ⁻¹] | 1 | | 0,5 |
| Air consumption | [m ³ h ⁻¹] | 37 | 144 | |
| Filtration | [µm] | 50 | | |
| Weight | [kg] | 48 | 65 | 70 |
| Inside diameter of the supply hose | [mm] | Ø 16 | Ø 20 | |

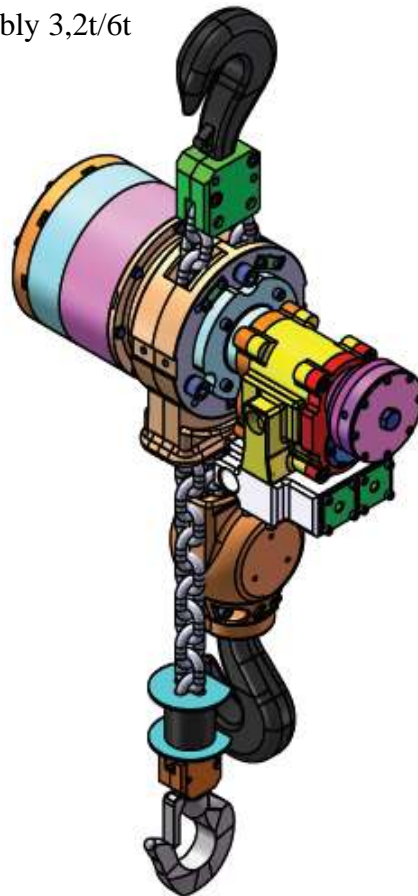
THE ZMP 3,2t/6t PNEUMATIC MANIPULATION DEVICE

DESCRIPTION:

The ZMP 3,2t/6t pneumatic manipulation device is used for vertical lifting and lowering of loads in places with pressure air supply.

The ZMP 3,2t/6t pneumatic manipulation device consists of the following basic parts:

- Body with the hook assembly 3,2t/6t
- Pneumatic motor MPZ 3,5



TECHNICAL PARAMETERS:

| | | | |
|------------------------------------|-----------------------------------|---------|-----|
| Loading | [t] | 3,2 | 6 |
| Load chain | [mm] | 13 x 36 | |
| Operating pressure | [MPa] | 0,4 | |
| Nominal motor output | [kW] | 3,5 | |
| Lifting speed | [m.mim ⁻¹] | 3 | 1,5 |
| Air consumption | [m ³ h ⁻¹] | 350 | |
| Filtration | [µm] | 50 | |
| Weight | [kg] | 150 | |
| Inside diameter of the supply hose | [mm] | ø 25 | |

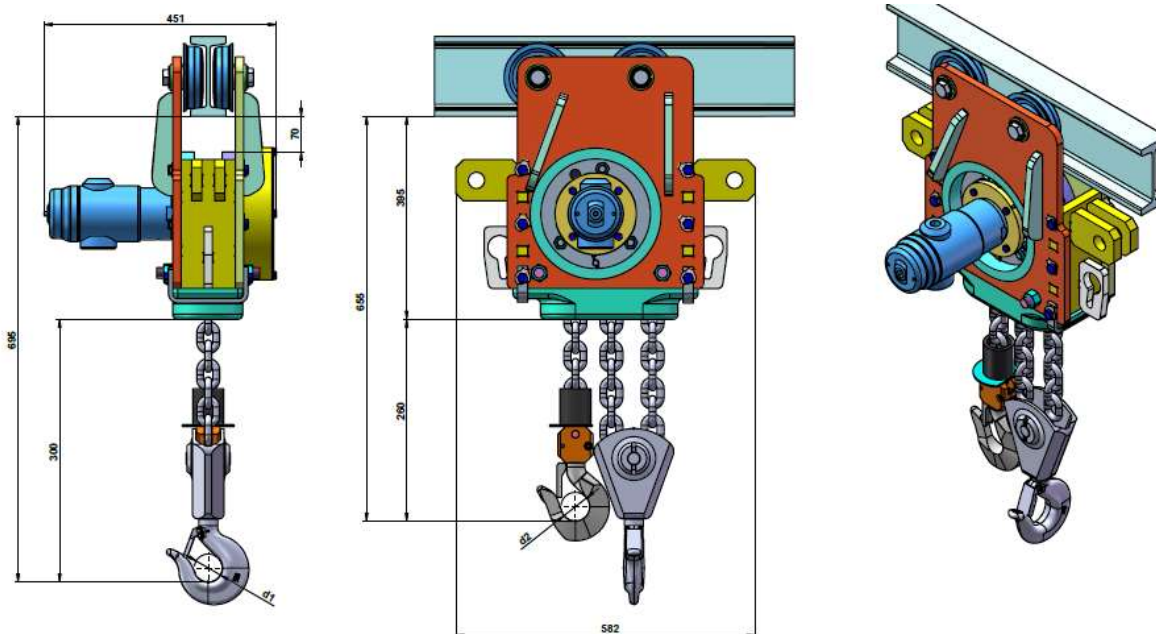
ZMPP 3.2t/5t(6t) TRAVELLING PNEUMATIC MANIPULATION DEVICE

DESCRIPTION:

The ZMPP 3.2t/5t(6t) travelling pneumatic manipulation device is used for vertical lifting and lowering of loads on the ZD 24 hanging track in places with pressure air supply.

The ZMPP 3.2t/5t(6t) travelling pneumatic manipulation device consists of the following basic parts:

- Pneumatic multi-plate motor MPL 3, version P2
- ZMPP 3.2t/5t(6t) load cart



TECHNICAL PARAMETERS:

| | | | |
|------------------------------------|-----------------------------------|-----------|-------|
| Loading | [t] | 3,2 | 5 (6) |
| Load chain | [mm] | 13x36 | |
| Operating pressure | [MPa] | 0,4 – 0,6 | |
| Nominal motor output | [kW] | 3 | |
| Lifting speed | [m.mim ⁻¹] | 1 | 0,5 |
| Air consumption | [m ³ h ⁻¹] | 144 | |
| Filtration | [µm] | 50 | |
| Weight | [kg] | 150 | |
| Inside diameter of the supply hose | [mm] | Ø 16 | |

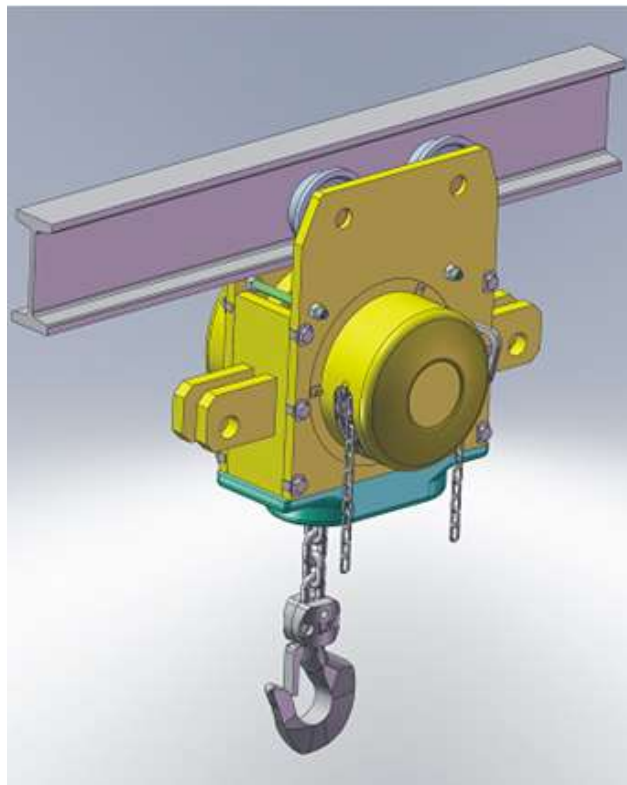
ZMRP 3,2t MANUAL TRAVELLING MANIPULATION DEVICE

DESCRIPTION:

The ZMRP 3,2t manual travelling manipulation device is used for vertical lifting and lowering of loads on the ZD 24 hanging track.

The ZMRP 3,2t manual travelling manipulation device consists of the following basic parts:

- ZMRP 3.2t manual tackle
- ZMRP 3.2t load cart



TECHNICAL PARAMETERS:

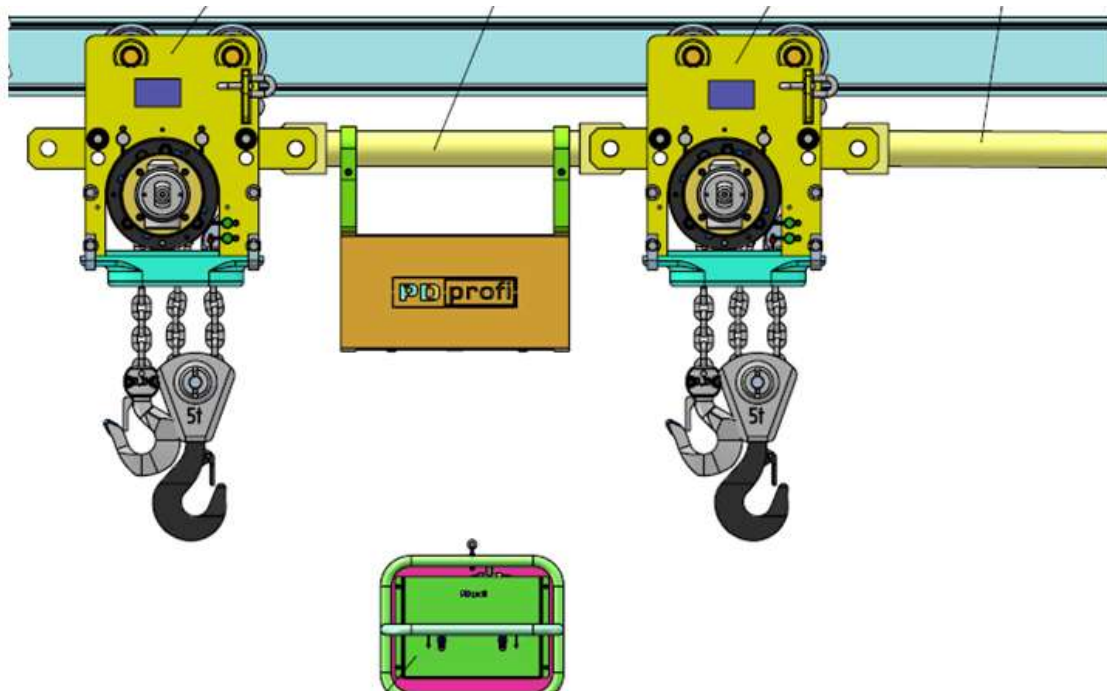
| | | |
|---------------|------------------------|-----------|
| Loading | [t] | 3,2 |
| Load chain | [mm] | ∅ 11 x 31 |
| Control force | [N] | 400 |
| Hand chain | [mm] | ∅ 4 x 20 |
| Lifting speed | [m.mim ⁻¹] | 0,29 |
| Weight | [kg] | 140 |

MZP 2x3.2t, 5t, 6t (ZMPP) PNEUMATIC SUSPENDED TROLLEY MANIPULATION DEVICE

DESCRIPTION:

The **MZP 2x3.2t/5t/6t** suspended trolley manipulation device are designed for transport of material in mining operations along the ZD 24, I155 type suspension monorail.

The **MZP 2x3.2t/5t/6t** suspended trolley device consists of two (ZMPP)-MZP 3.2t/5t(6t) manipulation devices connected by a connecting rod. MZP 2x3.2t/5t/6t can be pulled, for example, by the MK manipulation trolley connected by the connecting rod. Both MZP 3.2t/5t/6t manipulation devices are operated by the PO-2 control panel. The breaking cart is not a part of delivery.



TECHNICAL PARAMETERS:

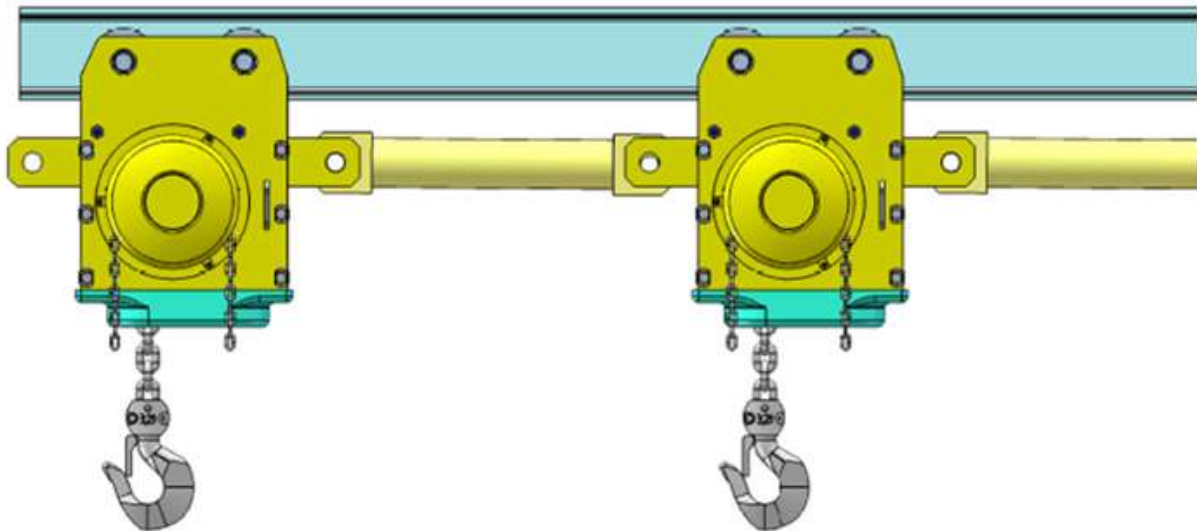
| | | |
|--------------------------------------|---------|---------------|
| Maximum tension load MZP 2x3,2t5t/6t | [kN] | 100 |
| Axis distance of hooks (hitches) | [mm] | as required |
| Elevation of hooks (basic) | [mm] | 3000 |
| Max. loading | [t] | 2 x 3,2/5t/6t |
| Max. incline during lifting | [°] | ±25 |
| Operating pressure | [MPa] | 0,4-0,6 |
| Weight | [kg] | Approx. 340 |

MZP 2x3.2t MANUAL MOBILE MANIPULATION DEVICE

DESCRIPTION:

The MZP 2x3.2t mobile manipulation device is used for transport of material in mining operations along the ZD 24 type hanging tracks.

The MZP 2x3.2t mobile manipulation device consists of two ZMPR 3.2t manipulation devices connected by a connecting rod. MZP 2x3.2t can be pulled, for example, by the MK10 manipulation trolley connected by the connecting rod. Both ZMPR 3.2t manipulation devices are operated by manual control chain. A brake cart is not a part of delivery.



TECHNICAL PARAMETERS:

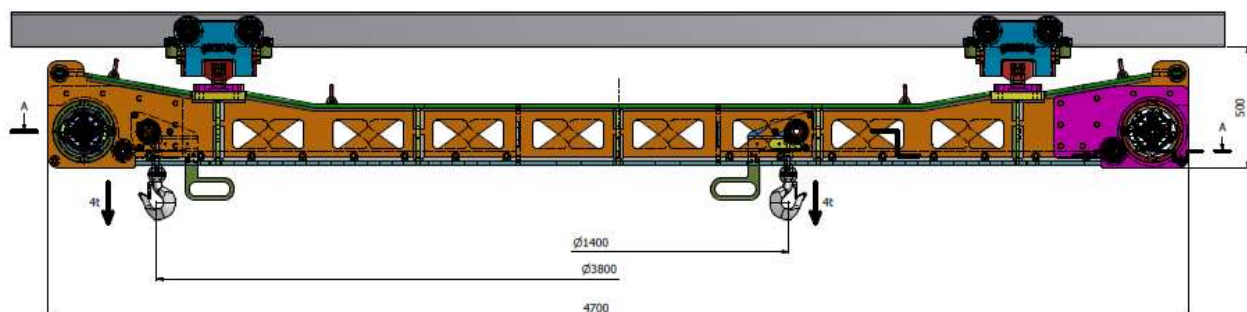
| | | |
|-----------------------------------|--------|---------------|
| Maximum tension load MZP 2x3.2/5t | [kN] | 6,4 |
| Axis distance of hooks (hitches) | [mm] | as required |
| Lift of hooks (basic) | [mm] | 3000 |
| Max. loading | [t] | 2 x 3,2 |
| Max. incline during lifting | [°] | ±20 |
| Total weight | [kg] | Approx. 300kg |

PNEUMATIC TRANSPORT EQUIPMENT ZTP 2x3,2t

DESCRIPTION:

Pneumatic transport equipment **ZTP 2x3,2t** is used for transport of material in mines on hanging grooves, type ZD 24.

Pneumatic transport equipment **ZTP 2x3,2t** consists of frame with lifting equipment, operating and connecting pull rod. Two trolleys are used to hang it on the rails. The lifting part is composed by two units, formed by a hoist with pneumatic brake motor. The movement of the lifting chain is drawn by the nut of the hoist. The chain continues further inside the frame to an adjustable shuttle and towing hook with turn that protects the chain from twisting. Shuttles, together with the pitch between towing hooks, can be easily adjusted in the range from 1.4 m up to 3.8 m in steps by 0.1 m. The unloaded end of the chain is laid aside into the storage grip. The pneumatic control is hanged on the connecting pull rod, outside the dangerous area of hanging weight.



TECHNICAL PARAMETERS:

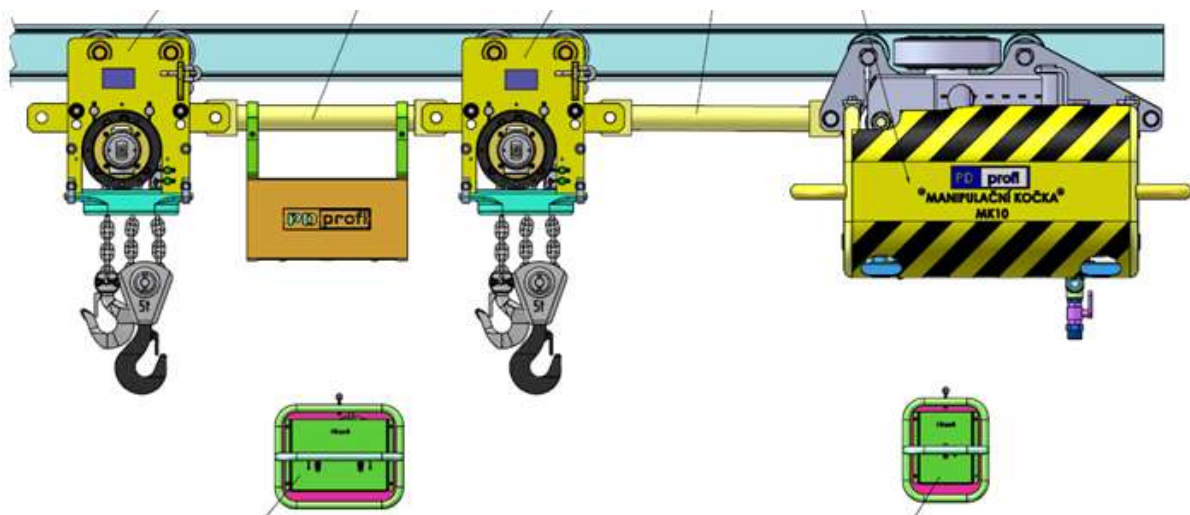
| | | |
|---------------------------------|---------|-------------|
| Maximum tension load ZTP 2x3,2t | [kN] | 62 |
| Axis distance of hooks | [mm] | 1400 - 3800 |
| Elevation of hooks (basic) | [mm] | 3000 |
| Max. loading | [t] | 2 x 3,2 |
| Max. incline during lifting | [°] | ±20 |
| Operating pressure | [MPa] | 0,4-0,6 |
| Weight | [kg] | Approx. 850 |

PNEUMATIC MANIPULATION SET SMP 1

DESCRIPTION:

The **SMP 1** pneumatic manipulation set is used for transport of material in mining operations along the ZD 24 type hanging tracks.

The **SMP 1** pneumatic manipulation set consists of two pneumatic travelling manipulation units ZMPP 3.2t/5t or ZMPP 3.2t/6t that are controlled by the OP 2 pneumatic control. The units are connected by connecting rods and pulled by the MK10-16 000N manipulation trolley. A brake cart is not a part of delivery.



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|---------|----------------------|
| Nominal traction force | [N] | 16 000 |
| Axis distance of hooks (hitches) | [mm] | as required |
| Elevation of hooks (basic) | [mm] | 3000 |
| Max. loading | [t] | 2 x 3,2/5, 2 x 3,2/6 |
| Inside diameter of the supply hose | [mm] | 32 |
| Max. incline during lifting | [°] | ±25 |
| Working medium pressure | [MPa] | 0,4-0,6 |
| Total weight | [kg] | Approx. 710 kg |

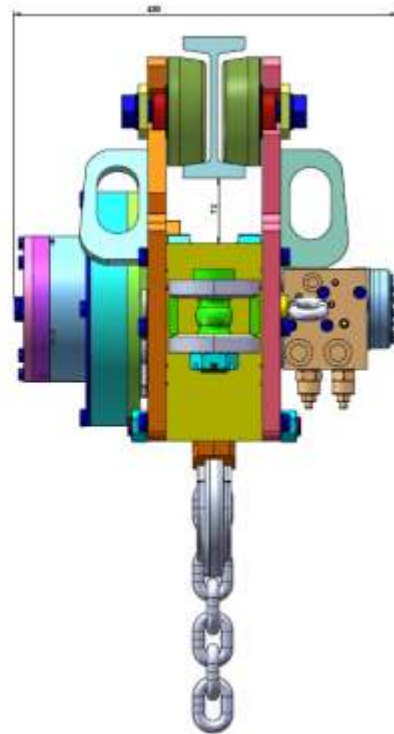
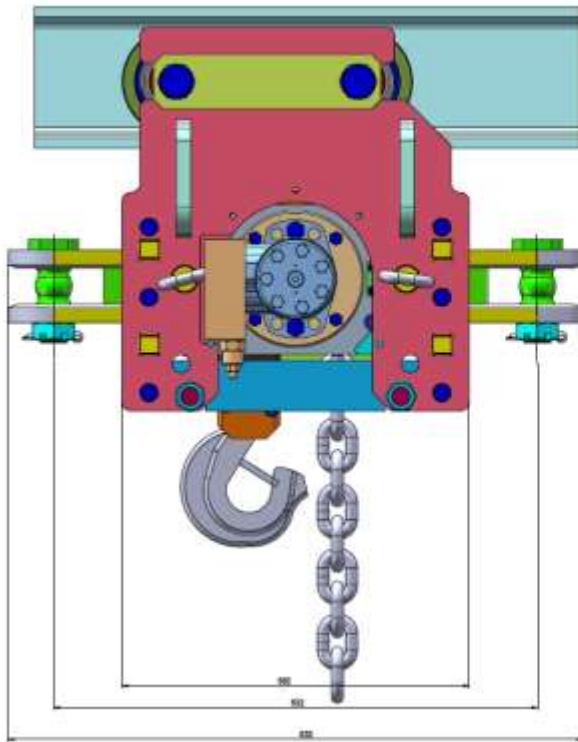
ZMHP 3.2t/4t/6t TRAVELLING PNEUMATIC MANIPULATION DEVICE

DESCRIPTION:

The ZMHP 3.2t/5t(6t) travelling hydraulic manipulation device is used for vertical lifting and lowering of loads on the ZD 24 hanging track in places with pressure air supply.

The ZMHP 3.2t/5t(6t) travelling pneumatic manipulation device consists of the following basic parts:

- Hydraulic multi-plate motor
- ZMHP 3.2t/5t(6t) load cart



TECHNICKÉ PARAMETRY:

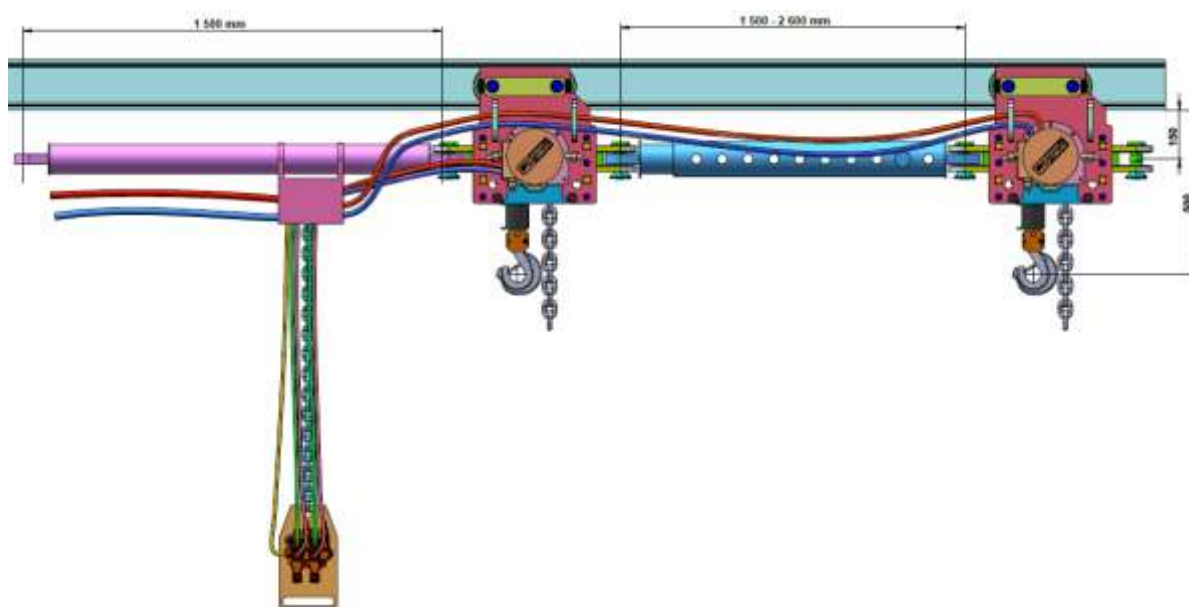
| | | | | |
|----------------------------|------------------------|----------|------|------|
| Loading | [t] | 3,2 | 4 | 5 |
| Load chain | [mm] | 13x36 | | |
| Operating pressure | [MPa] | Max 17,5 | | |
| Installed power supply | [kW] | 8,4 | 10,1 | 10,2 |
| Lifting speed | [m.min ⁻¹] | 4 | 3 | 1,8 |
| Flow through amount of oil | [l.min ⁻¹] | Max 60 | | |
| Weight | [kg] | 156 | | |

MZH 2x3,2t, MZH 2x4, MZH 2x5t TRAVELLING MANIPULATION DEVICE

DESCRIPTION:

The **MZHP 2x3.2t/4t/5t** travelling manipulation device is used for transport of material in mining operations along the ZD 24, I155 type hanging track.

The **MZH 2x3.2t/4t/5t** travelling manipulation device consists of two (ZMHP)-MZH 3.2t/4t/5t manipulation devices connected by a connecting rod. MHP 2x3.2t/4t/5t can be pulled, for example, by the MKH manipulation trolley connected by the connecting rod. Both MHP 3.2t/5t/6t manipulation devices are operated by the PH-2 control panel. The breaking cart is not a part of delivery.



TECHNICKÉ PARAMETRY:

| | | | | |
|----------------------------|---------------------------------------|----------|----------|----------|
| Loading | [t] | 2 x 3,2t | 2 x 4t | 2 x 5t |
| Load chain | [mm] | 13x36 | | |
| Operating pressure | [MPa] | Max 17,5 | | |
| Installed power supply | [kW] | 2 x 8,4 | 2 x 10,1 | 2 x 10,2 |
| Lifting speed | [m.min ⁻¹] | 4 | 3 | 1,8 |
| Flow through amount of oil | [dm ³ .min ⁻¹] | max 60 | | |
| Weight | [kg] | Cca 400 | | |

PL 0.25t AND 0.5t PNEUMATIC TACKLES

DESCRIPTION:

The PL 0.25t a 0.5t pneumatic tackles consist of the body with a hook set, multi-plate motor and a pneumatic control.

The PL 0.25t a 0.5t pneumatic tackles are used as classical stable hoists to lift and lower loads at places with the supply of compressed air:

- as a manipulation hoist for installation and maintenance work in all kinds of technological operations
- it is especially useful in the dust or gas explosion danger environments, where electric motor hoists cannot be used (gasworks, deep mines, chemical plants etc.)
- version with the NEXP designation



TECHNICAL PARAMETERS:

| | | | |
|------------------------------------|-----------------------------------|-------------|------------|
| Loading | [t] | 0,25 | 0,5 |
| Load chain | [mm] | 4x12 | 2x (4x12) |
| Operating pressure | [MPa] | 0,4 – 0,6 | |
| Nominal motor output | [kW] | 0,8 | |
| Lifting speed | [m.mim ⁻¹] | 0,5 | 0,5 |
| Air consumption | [m ³ h ⁻¹] | | |
| Filtration | [µm] | 50 | |
| Weight | [kg] | 15 | 16 |
| Inside diameter of the supply hose | [mm] | Ø13 | |

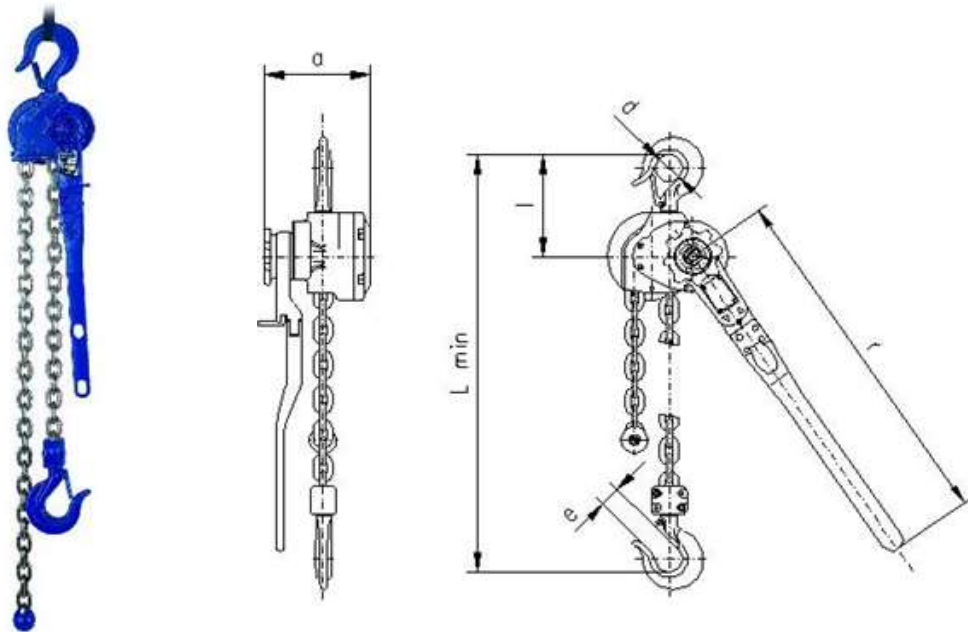
RZC RATCHET HOISTS – NEXP

DESCRIPTION:

The RZC ratchet hoists consist of the body with hook and gear assembly, control lever and load-link chain with a hook.

The RZC ratchet hoists are widely used in places where loads need to be manipulated in the explosion danger environment. By their design these hoists meet requirements set for the group I (mining), category M2 devices.

- for lifting and dragging of loads
- for tensioning of fences, salvage work, pulling out of supports
- as lifting devices for mine hanging tracks
- for assembly and manipulation work of all kinds
- suitable for use in heavy duty operations - mines, chemical industry etc.



TECHNICAL PARAMETERS:

| Loading (t) | Number of load strands | Load chain | Control force (N) | Lifting speed (m/min) | Basic dimensions (mm) | | | | | | Weight (kg) | Weight gain per 1m of lift (kg) |
|-------------|------------------------|------------|-------------------|-----------------------|-----------------------|----|-------|-----|-------|-----|-------------|---------------------------------|
| | | | | | a | d | e min | l | L min | r | | |
| 0,8 | 1 | Ø 5 x 15 | 400 | 1,27 | 145 | 36 | 23,5 | 145 | 327 | 560 | 8,9 | 0,55 |
| 1,6 | 1 | Ø 9 x 27 | 370 | 0,52 | 165 | 43 | 29,5 | 160 | 380 | 560 | 16,7 | 1,84 |
| 3,2 | 1 | Ø 11 x 31 | 400 | 0,37 | 173 | 50 | 35,5 | 223 | 417 | 560 | 21 | 2,73 |
| 5 | 2 | Ø 11 x 31 | 300 | 0,18 | 173 | 56 | 42 | 242 | 630 | 560 | 34 | 5,46 |
| 6,3 | 2 | Ø 11 x 31 | 400 | 0,18 | 173 | 63 | 48 | 265 | 650 | 560 | 40 | 5,46 |

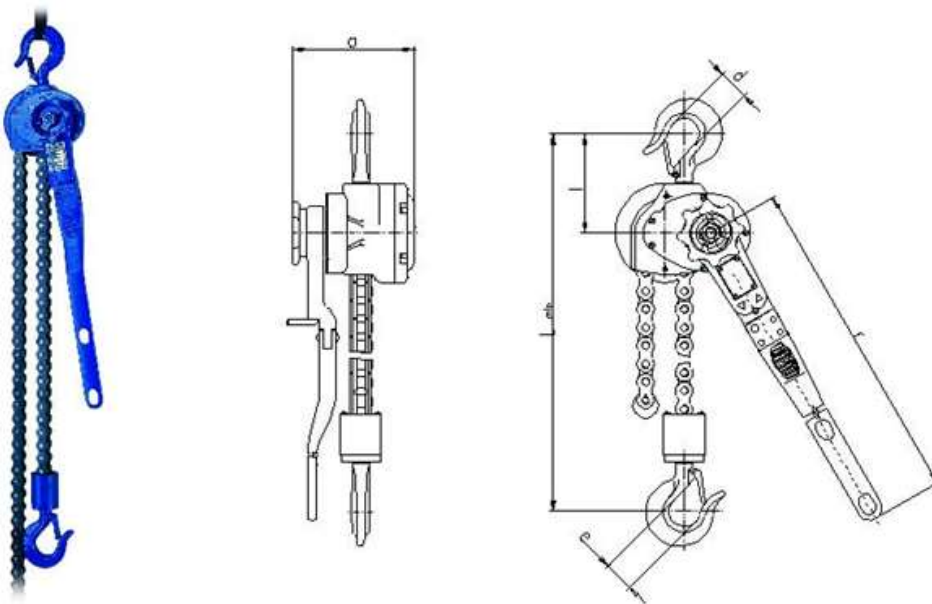
RZV RATCHET HOISTS – NEXP

DESCRIPTION:

The RZV ratchet hoists consist of the body with hook and gear assembly, control lever and load-roller chain with a hook.

The RZV ratchet hoists are widely used in places where loads need to be manipulated in the explosion danger environment. By their design these hoists meet requirements set for the group I (mining), category M2 devices.

- for lifting and dragging of loads
- for tensioning of fences, salvage work, pulling out of supports
- as lifting devices for mine hanging tracks
- for assembly and manipulation work of all kinds
- suitable for use in heavy duty operations - mines, chemical industry etc.



TECHNICAL PARAMETERS:

| Loading (t) | Number of load strands | Control force (N) | Lifting speed (m/min) | Basic dimensions (mm) | | | | | | Weight (kg) |
|-------------|------------------------|-------------------|-----------------------|-----------------------|----|--------|-----|--------|-----|-------------|
| | | | | a | d | e (mm) | l | L (mm) | r | |
| 0,8 | 1 | 400 | 1,27 | 145 | 36 | 23,5 | 145 | 327 | 560 | 9,4 |
| 1,6 | 1 | 370 | 0,52 | 165 | 43 | 29,5 | 160 | 395 | 560 | 16,5 |
| 3,2 | 2 | 370 | 0,26 | 165 | 50 | 35,5 | 223 | 500 | 560 | 24 |
| 5 | 3 | 440 | 0,22 | 160 | 56 | 39,5 | 213 | 555 | 560 | 41 |
| 6,3 | 4 | 430 | 0,17 | 160 | 63 | 48 | 260 | 640 | 560 | 46 |

ROPE HOISTS

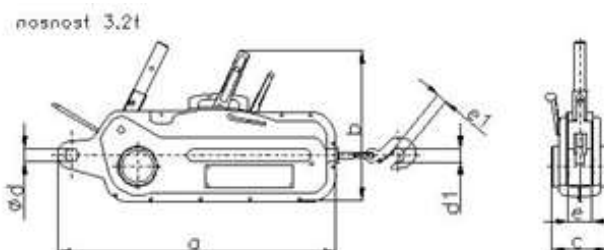
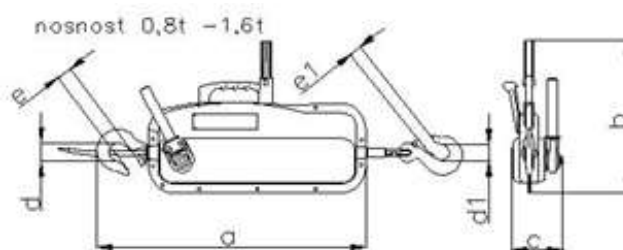
DESCRIPTION:

The rope hoists consist of the body with hook and gear assembly, control lever and a rope with a hook.

They are widely used especially in construction, agriculture, forestry, transport etc., for example:

- for lifting and dragging of loads in all directions
- for salvage work and construction demolitions
- for erecting of posts, installation of electrical lines, tensioning of cableway return trolleys
- for logging
- for installation and manipulation work of all kinds

Ropes are delivered separately, wound on rope reels. The rope length is optional from the 10, 20, 30 and 40m lengths. Longer ropes need to be special ordered.



TECHNICAL PARAMETERS:

| | Loading (t) | Lifting speed (m/min) | Control force (N) | Basic dimensions (mm) | | | | | | | Weight (kg) |
|--------------|-------------|-----------------------|--------------------|-----------------------|-----|-----|----|----|------|------|-------------|
| | | | | a | b | c | d | d1 | e | e1 | |
| 30-10 | 0,8 | 2 | 250 | 535 | 260 | 125 | 36 | 32 | 23,5 | 23,5 | 11,5 |
| 30-00 | 1,6 | 2 | 450 | 630 | 365 | 155 | 43 | 46 | 32,5 | 32,5 | 21,5 |
| 30-11 | 3,2 | 0,45 0,84 | 380 (B) 750 (A) | 680 | 345 | 140 | 28 | 64 | 47 | 45,5 | 33,5 |

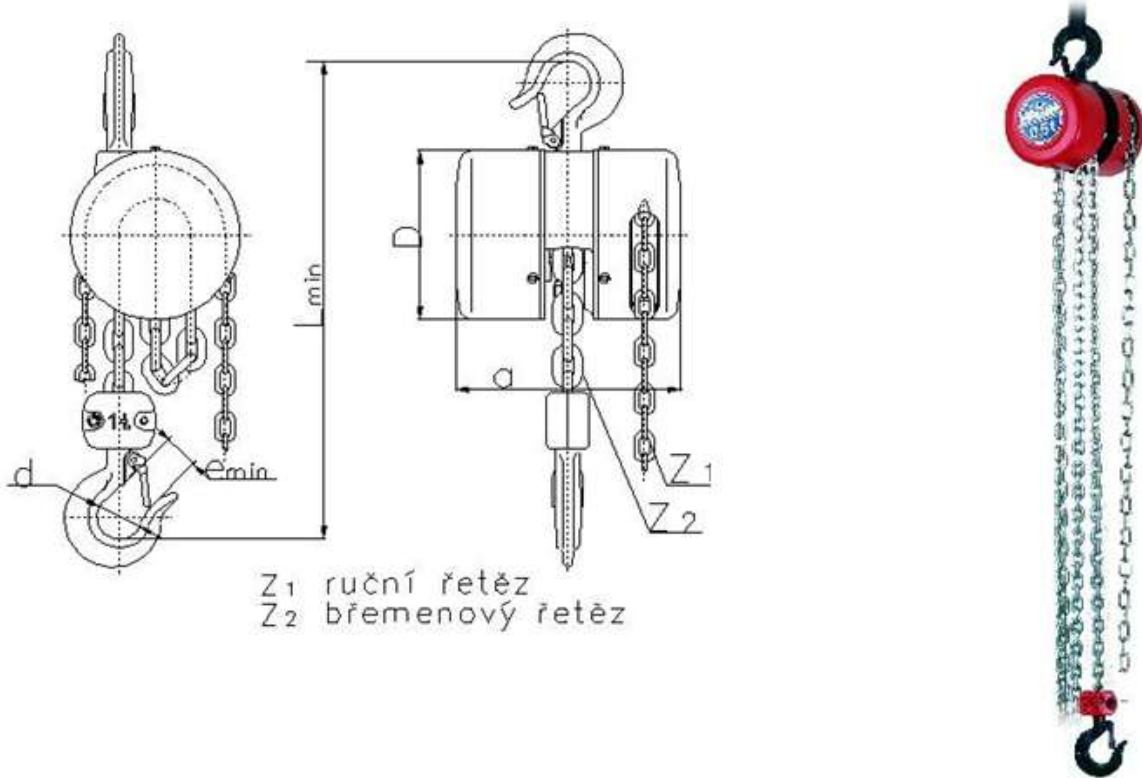
Z100 CHAIN TROLLEYS

DESCRIPTION:

THE Z100 chain trolleys consist of the body with hook, gear box and manual wheel and the load chain with hook.

THE Z100 chain trolleys are used as classical stable manually operated hoists for lifting and lowering of loads

- especially suitable for use in places where hoists are not used extensively
- for occasional work
- in places without a power source
- as the service hoist for assembly and maintenance work in all kinds of technological operations
- they can be used in the explosion danger environment (the NEXP designation)



Z₁ ruční řetěz
Z₂ břemenový řetěz

TECHNICAL PARAMETERS:

| | Loading (t) | Number of load strands | Load chain | Hand chain | Control force (N) | Lifting speed (m/min) | Basic dimensions (mm) | | | | | Weight (kg) |
|----------------|-------------|------------------------|------------|------------|-------------------|-----------------------|-----------------------|----|-----|---------|---------|-------------|
| | | | | | | | a | d | D | e (min) | L (min) | |
| Z 100 | 0,5 | 1 | Ø 5 x 15 | Ø 4 x 20 | 300 | 1,10 | 165 | 30 | 115 | 18,5 | 250 | 10 |
| Z 100-1 | 1 | 1 | Ø 7 x 21 | Ø 4 x 20 | 350 | 0,70 | 180 | 36 | 136 | 23,5 | 330 | 12,5 |
| Z 100 | 1,6 | 1 | Ø 9 x 27 | Ø 4 x 20 | 320 | 0,36 | 220 | 43 | 198 | 29,5 | 410 | 25 |
| Z 100-1 | 3,2 | 1 | Ø 11 x 31 | Ø 4 x 20 | 400 | 0,29 | 254 | 50 | 220 | 35,5 | 510 | 36,5 |
| Z 100-2 | 5 | 2 | Ø 11 x 31 | Ø 4 x 20 | 400 | 0,145 | 254 | 56 | 220 | 39,5 | 655 | 57 |
| Z 100 | 7,5 | 2 | Ø 11 x 31 | Ø 4 x 20 | 480 | 0,15 | 254 | 56 | 220 | 43 | 875 | 70 |
| | 10 | 3 | Ø 11 x 31 | Ø 4 x 20 | 400 | 0,10 | 254 | 63 | 200 | 47 | 1000 | 85 |

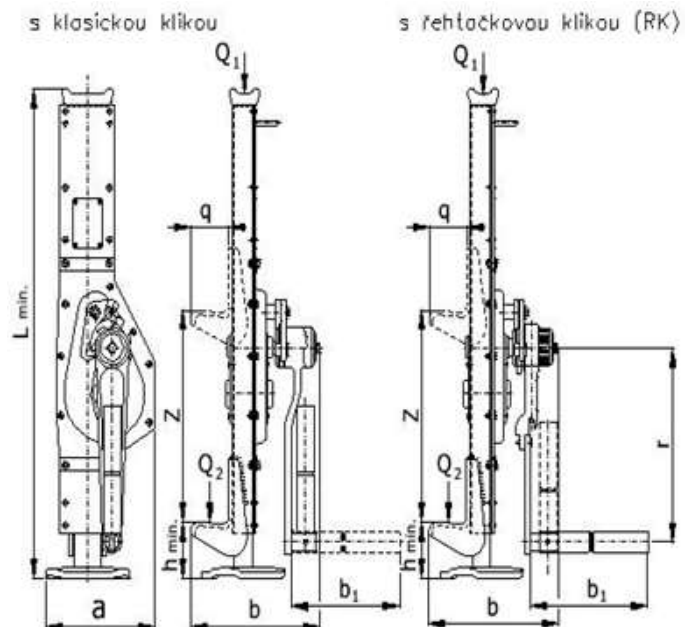
SHOE RACK JACKS

DESCRIPTION:

Shoe rack jacks consist of the casing, rack with a shoe and operating handle with gears.

The shoe rack jacks are widely used especially in construction and mining industries and everywhere, where loads need to be manipulated.

- for lifting and manipulation with all kinds of loads
- for installation work especially in construction
- they can be used in the explosion danger environment (the NEXP designation)



TECHNICAL PARAMETERS:

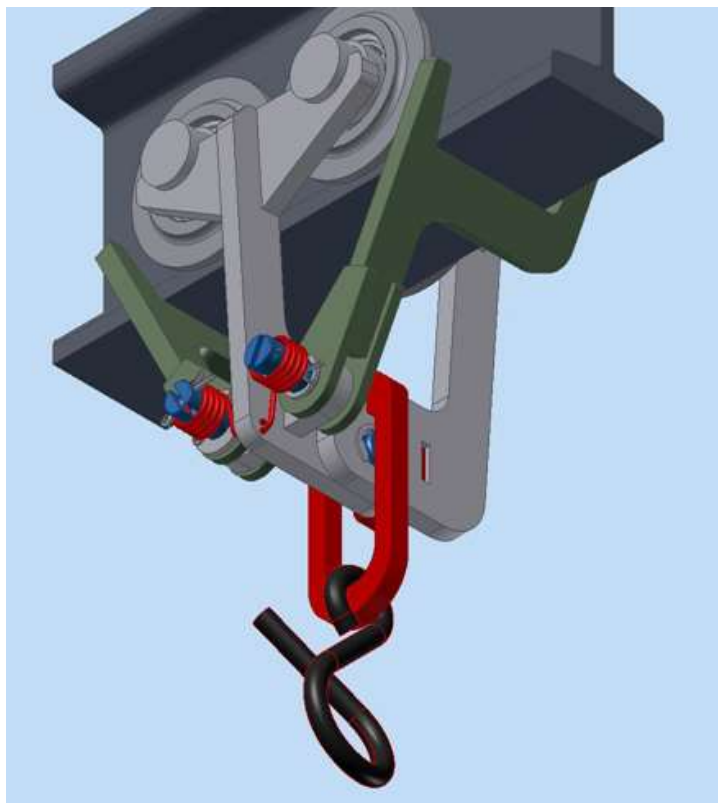
| | Loading (t) | | Control force (N) | Basic dimensions (mm) | | | | | | | | Weight (kg) |
|----------|-------------|-----|-------------------|-----------------------|-----|-----|----|-------|-------|-----|-----|-------------|
| | Q1 | Q2 | | a | b | b1 | q | h min | L min | r | Z | |
| 15-00 | 2,5 | 1,8 | 380 | 162 | 198 | 200 | 61 | 73 | 735 | 250 | 345 | 15 |
| 15-00 RK | | | | | | | | | | | | 16 |
| 15-00 | 5 | 3,5 | 550 | 188 | 235 | 200 | 77 | 83 | 765 | 300 | 360 | 22 |
| 15-00 RK | | | | | | | | | | | | 23 |
| 15-01 | 10 | 7 | 540 | 234 | 290 | 200 | 95 | 90 | 770 | 300 | 320 | 38 |
| 15-01 RK | | | | | | | | | | | | 39 |
| 15-01 | 16 | 11 | 730 | 280 | 315 | 280 | 92 | 160 | 900 | 400 | 320 | 65 |
| Z23 | 20 | 14 | 800 | 325 | 330 | 280 | 85 | 150 | 960 | 400 | 300 | 90 |

VR 1 HAND CART

DESCRIPTION:

The VR 1 hand cart is used for manual transport of loads of up to 60kg along the ZD 24 hanging track. The cart can be put on at any place on the track. The cart is operated using a strap through a pawl that will block the cart at the nearest track joint if it runs away.

- The VR 1 hand cart consists of:
- Two arms with driving wheels
 - Two pawls with return springs
 - Hanging
 - Control strap



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------|-----------------|
| Loading | [kg] | 60 |
| Max. travel speed on level surface | [mm] | 20 |
| Maximum path incline | [°] | 30 |
| Basic dimensions | [mm] | 150 x 390 x 215 |
| Weight | [kg] | 5,5 |

JKL AND KO UNIVERSAL TACKLES

DESCRIPTION:

The JKL and KO universal tackles are used for manipulation in mines, in construction for lifting of loads and materials using a steel rope. The tackles are designed with fourfold safety limit over the failure strength. These tackles can be used everywhere with fourfold strength of construction over failure limit and the ratio of the tackle diameter to rope one at least $D/d=7$. Size of the hanging eyelet allows double hanging of the tackle by, for example, high-strength chain.

JKL 231 – The auxiliary front tackle for leading of a steel rope during transport and manipulation of loads, where the tackle load does not exceed 12kN (2x6kN at the wrap angle 180°)

JKL 42/1 – The tackle for leading of a steel rope during transport and manipulation of loads, where the tackle load does not exceed 92kN (2x46kN at the wrap angle 180°). The rope is inserted by lifting off of the safety catch.

KO 2x60kN - The tackle consists of the oval eyelet with shank hinge attached in the tackle body and turning side that is secured by a pin extendable into the body of the tackle. It is used for the maximum tension in the rope of 60kN and the angle of wrap 180°.



TECHNICAL PARAMETERS:

| | | JKL 231 | JKL 42/1 | KO 2 x 60kN |
|------------------|----|-----------------|-----------------|-----------------|
| Max. pulley load | kN | 2 x 6 | 2 x 46 | 2 x 60 |
| Max. Ø of rope | mm | 16 | 20 | 20 |
| Pulley diameter | mm | 120 | 128 | 142 |
| Basic dimensions | mm | 160 x 240 x 108 | 168 x 450 x 124 | 220 x 158 x 452 |
| Weight | kg | 4,3 | 12 | 25 |

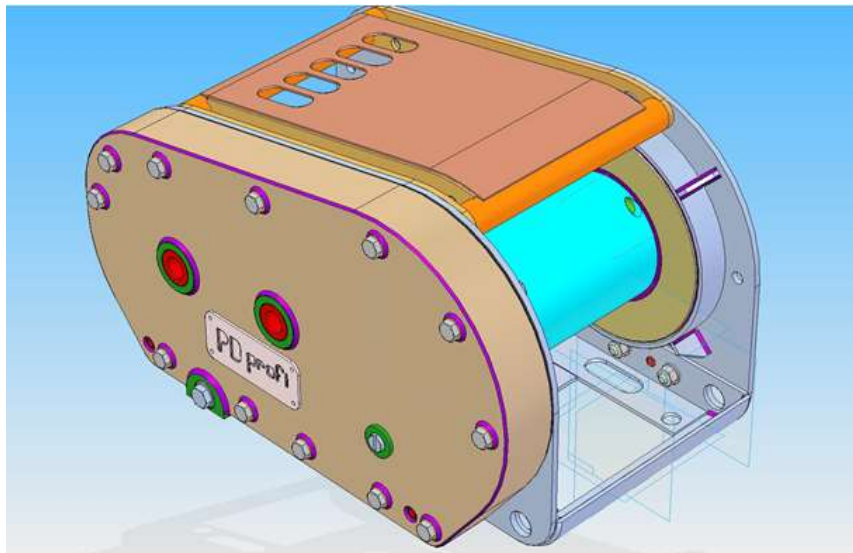
PNEUMATIC TOWING WINCH VVP 10

DESCRIPTION:

The VVP pneumatic towing winch is used for transport and moving of material, machines and their parts in mines along horizontal tracks.

The VVP pneumatic towing winch consists of the following basic parts:

- Winch frame with drum
- Pneumatic gear motor MPZ 3.5
- Control with pneumatic distribution



TECHNICAL PARAMETERS:

| | | |
|--------------------------------------|-----------------------------------|------|
| Max. tension within rope | [kN] | 9,6 |
| Rope length of the 8mm diameter rope | [m] | 65 |
| Operating pressure | [MPa] | 0,4 |
| Nominal motor output | [kW] | 3,2 |
| Medium rope speed | [m.s ⁻¹] | 0,36 |
| Air consumption | [m ³ h ⁻¹] | 350 |
| Filtration | [µm] | 50 |
| Weight | [kg] | 75 |
| Inside diameter of the supply hose | [mm] | 25 |

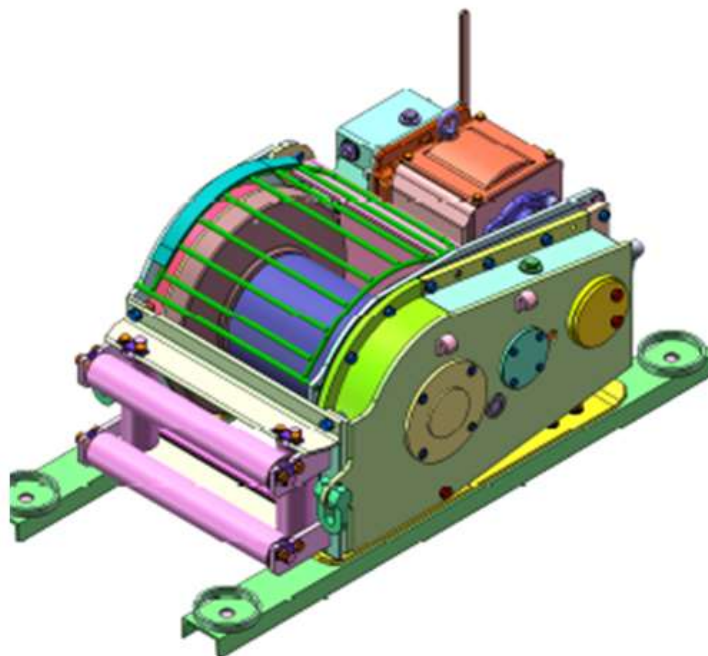
VP 40 PD REMOVAL WINCH

DESCRIPTION:

The VP 40 PD removal winch is a device intended for purposes requiring large traction strength and slow rope speed, for example for removal of supports, steel equipment etc.

The winch consists of these main parts:

- Frame
- Pneumatic gear motor MPZ 15
- Gears with shifting device
- Drum with planetary gears and cover
- Limit rollers



TECHNICAL PARAMETERS:

| | | |
|---------------------------------------|-----------------------------------|------|
| Max. tension within rope | [kN] | 58,2 |
| Rope length of the 20mm diameter rope | [m] | 125 |
| Operating pressure | [MPa] | 0,4 |
| Nominal motor output MPZ 15 | [kW] | 15 |
| Medium rope speed | [m.s ⁻¹] | 1,52 |
| Air consumption | [m ³ h ⁻¹] | 950 |
| Filtration | [µm] | 50 |
| Weight | [kg] | 1000 |
| Inside diameter of the supply hose | [mm] | ø 50 |

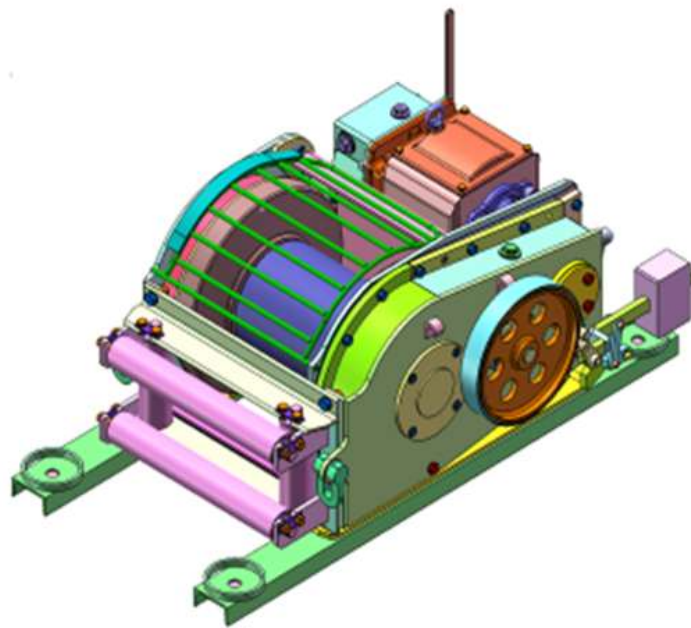
VV 40 PD TOWING WINCH

DESCRIPTION:

The VP 40 PD towing winch is a device intended for purposes requiring large traction strength and slow rope speed, for example for transport of material by skidding along a coalface etc.

The winch consists of these main parts:

- Frame
- Pneumatic gear motor MPZ 15
- Gears with shifting device
- Drum with planetary gears and cover
- Limit rollers
- Band foot brakes



TECHNICAL PARAMETERS:

| | | |
|---------------------------------------|-----------------------------------|------|
| Max. tension within rope | [kN] | 58,2 |
| Rope length of the 20mm diameter rope | [m] | 125 |
| Operating pressure | [MPa] | 0,4 |
| Nominal motor output MPZ 15 | [kW] | 15 |
| Medium rope speed | [m.s ⁻¹] | 1,52 |
| Air consumption | [m ³ h ⁻¹] | 950 |
| Filtration | [µm] | 50 |
| Weight | [kg] | 1100 |
| Inside diameter of the supply hose | [mm] | Ø 50 |

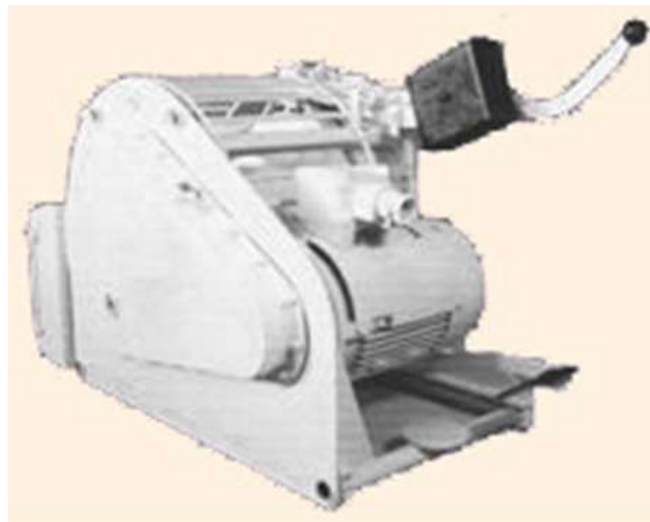
VTA 1000 MINING WINCH

DESCRIPTION:

The VTA 1000 mining winch is a device that is used for transport and moving of material, machinery and its parts in mines along horizontal and inclined transport routes.

The winch consists of these main parts:

- Winch frame
- Pneumatic gear motor (electric motor)
- Band brakes including brake control levers
- Drum with planetary gears and cover
- Limit rollers
- Drum cover



TECHNICAL PARAMETERS:

| | | pneumatic gear motor | Electric motor |
|---------------------------------------|-----------------------------------|----------------------|----------------|
| Max. tension within rope | [kN] | 12,8 | 10,8 |
| Rope length of the 14mm diameter rope | [m] | 310 | |
| Operating pressure | [MPa] | 0,4 | - |
| Nominal motor output MPZ 15 | [kW] | 13 | 11 |
| Medium rope speed | [m.s ⁻¹] | 1 | |
| Air consumption | [m ³ h ⁻¹] | 900 | - |
| Filtration | [μm] | 50 | - |
| Weight | [kg] | 769 | |
| Inside diameter of the supply hose | [mm] | ø 50 | - |

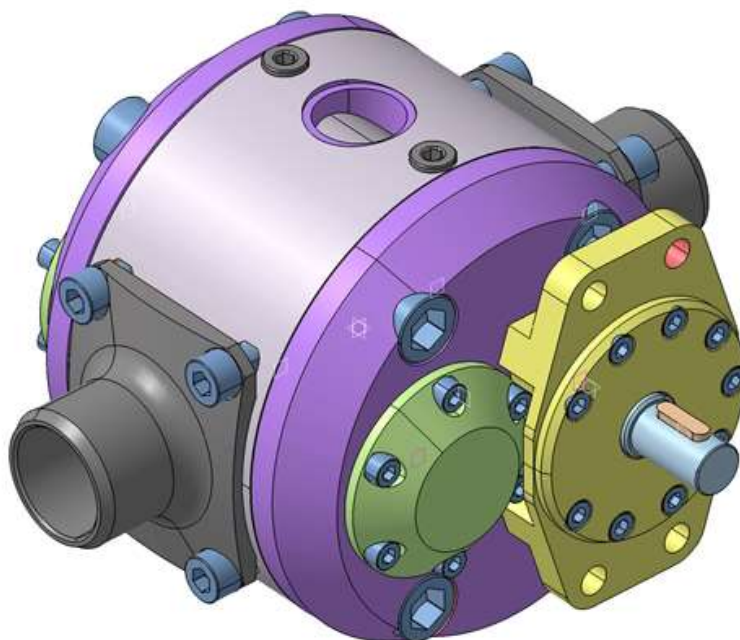
MPZ 3.5 PNEUMATIC GEAR MOTOR

DESCRIPTION:

The MPZ 3.5 pneumatic gear motor is used to power machinery, manipulation devices etc., especially in the explosion danger environment (mines, chemical industry etc.)

The MPZ 3.5 pneumatic gear motor consists of two gear rotors placed in a steel body sealed using two steel flanges. The motor can be attached to equipment using a flange or a shoe. The change of motor revolutions is done by a pneumatic valve that is placed outside of the motor.

It is manufactured in the following versions: P1- flanged
P2- flanged and braked



TECHNICAL PARAMETERS:

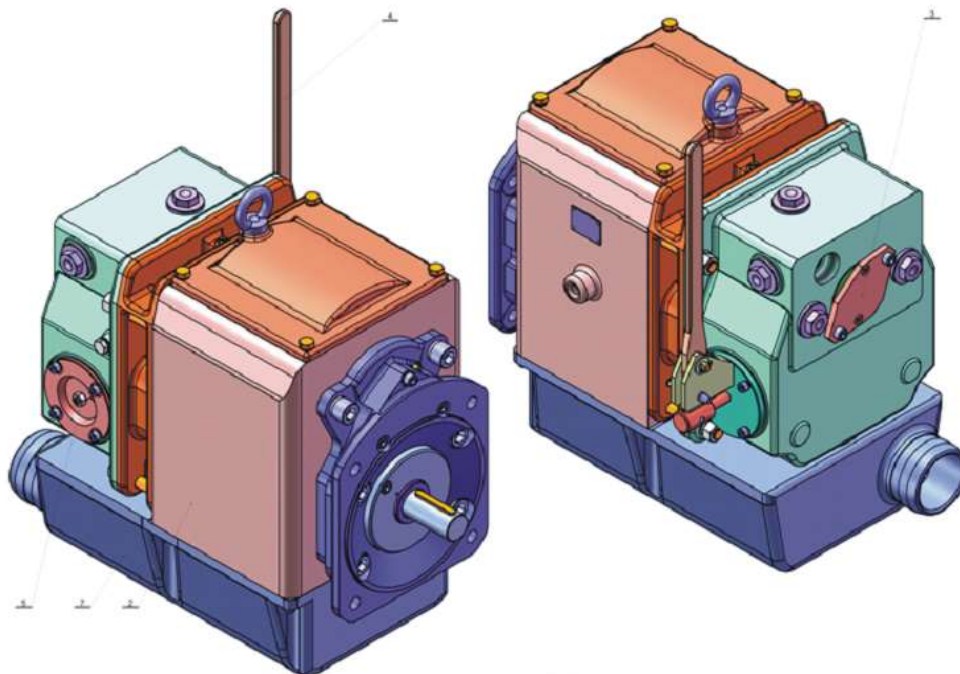
| | | |
|------------------------------------|-----------------------------------|-------------|
| Operating pressure | [MPa] | 0,35-0,4 |
| Nominal motor output MPZ 15 | [kW] | 3,5 |
| RPMs | [min ⁻¹] | 3000 |
| Air consumption | [m ³ h ⁻¹] | 350 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | ∅ 180 x 200 |
| Weight | [kg] | 20 |
| Inside diameter of the supply hose | [mm] | ∅ 25mm |

MPZ 15 PNEUMATIC GEAR MOTOR

DESCRIPTION:

The MPZ 15 pneumatic gear motor is used to power machinery, especially winches and drag-link conveyors, especially in the explosion danger environment (mines, chemical industry etc.)

The MPZ 15 pneumatic gear motor consists of two gear rotors placed in a cast-iron stator with flanges, distribution box with integrated lubrication, revolution regulator and air muffler. The motor can be attached to machines using a flange. The change of revolutions is performed manually using a lever on the distribution box.



TECHNICAL PARAMETERS:

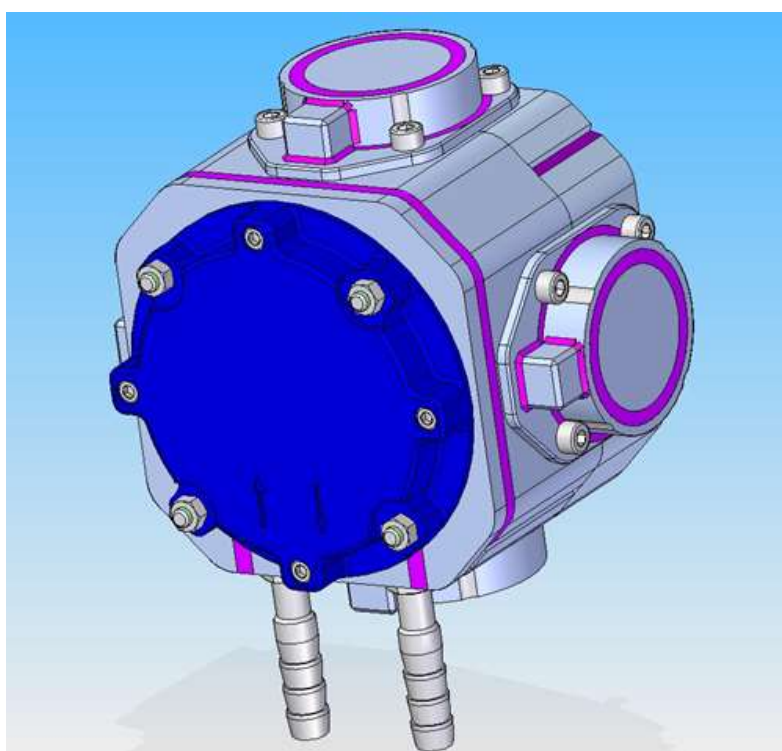
| | | |
|------------------------------------|-----------------------------------|-----------------|
| Operating pressure | [MPa] | 0,4 |
| Nominal motor output MPZ 15 | [kW] | 15 |
| RPMs | [min ⁻¹] | 1450 |
| Air consumption | [m ³ h ⁻¹] | 950 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | 407 x 534 x 548 |
| Weight | [kg] | 228 |
| Inside diameter of the supply hose | [mm] | Ø 50mm |

MPP 2 PNEUMATIC PISTON MOTOR

DESCRIPTION:

The MPP 2 pneumatic piston motor is used to power machinery, manipulation devices etc, especially in the explosion danger environment (mines, chemical industry etc.)

The MPP 2 pneumatic piston motor is designed as radial four cylinder engine with slide valve distribution and automatic multi-plate brake.



TECHNICAL PARAMETERS:

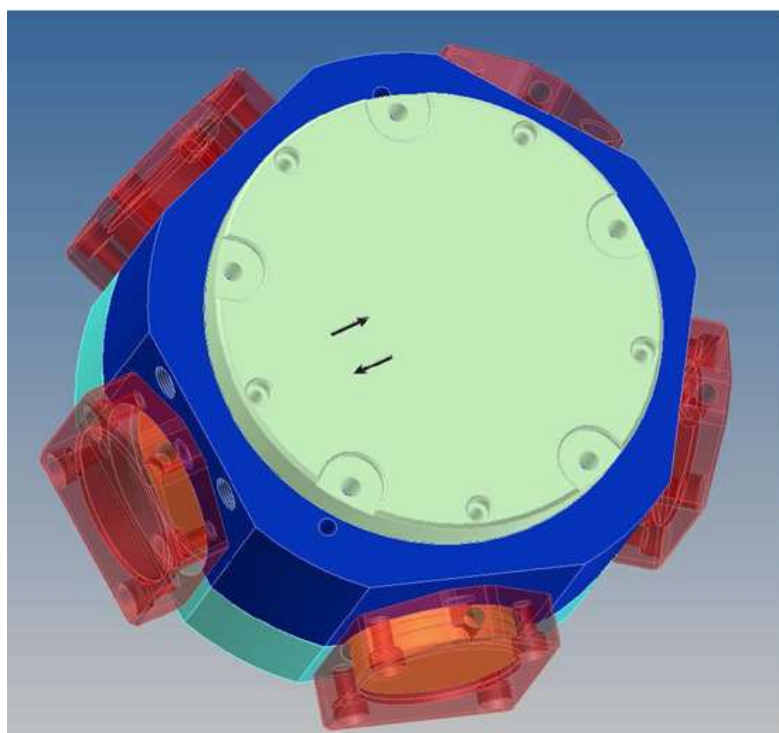
| | | |
|------------------------------------|-----------------------------------|-------------|
| Operating pressure | [MPa] | 0,45-0,6 |
| Nominal motor output MPZ 15 | [kW] | 2 |
| RPMs | [min ⁻¹] | 600 |
| Air consumption | [m ³ h ⁻¹] | 37 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | Ø 250 x 200 |
| Weight | [kg] | 20 |
| Inside diameter of the supply hose | [mm] | Ø 15mm |

MPP 3 PNEUMATIC PISTON MOTOR

DESCRIPTION:

The MPP 3 pneumatic piston motor is used to power machinery, manipulation devices etc, especially in the explosion danger environment (mines, chemical industry etc.)

The MPP 3 pneumatic piston motor is designed as radial cylinder engine with slide valve distribution and automatic multi-plate brake.



TECHNICAL PARAMETERS:

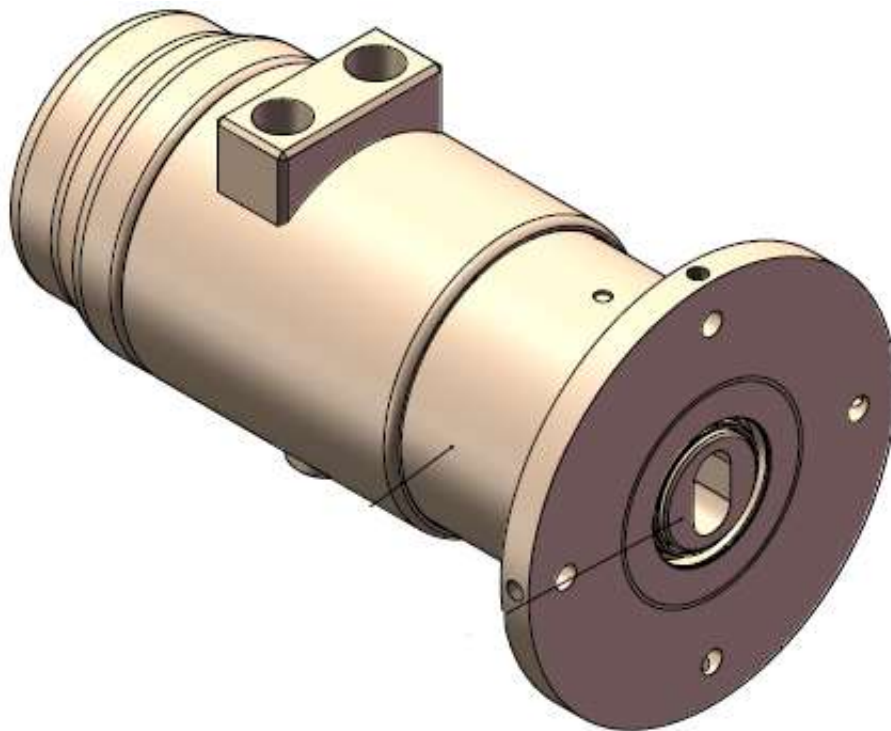
| | | |
|------------------------------------|-----------------------------------|-------------|
| Operating pressure | [MPa] | 0,45-0,6 |
| Nominal motor output MPZ 15 | [kW] | 3 |
| RPMs | [min ⁻¹] | 600 |
| Air consumption | [m ³ h ⁻¹] | 100 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | ø 220 x 200 |
| Weight | [kg] | 35 |
| Inside diameter of the supply hose | [mm] | ø 20 mm |

MPL 3 PNEUMATIC MULTI-PLATE MOTOR

DESCRIPTION:

The MPL 3 pneumatic multi-plate motor is used to power machinery, manipulation devices etc., especially in the explosion danger environment (mines, chemical industry, etc.)

The MPL 3 pneumatic multi-plate motor consists of a bidirectional multi-plate motor, two stage planetary transmission, and an automatic multi-plate brake.



TECHNICAL PARAMETERS:

| | | |
|--------------------------|-----------------------------------|-------------|
| Operating pressure | [MPa] | 0,4-0,6 |
| Nominal output | [kW] | 3±10% |
| Nominal revs | [min ⁻¹] | 600 |
| Air consumption | [m ³ h ⁻¹] | 144 |
| Filtration | [µm] | 50 |
| Basic dimensions (w x l) | [mm] | ø 108 x 272 |
| Weight | [kg] | 13,4 |
| Air supply | [mm] | ø 20 mm |



ISO 9001:2016



NPP 1

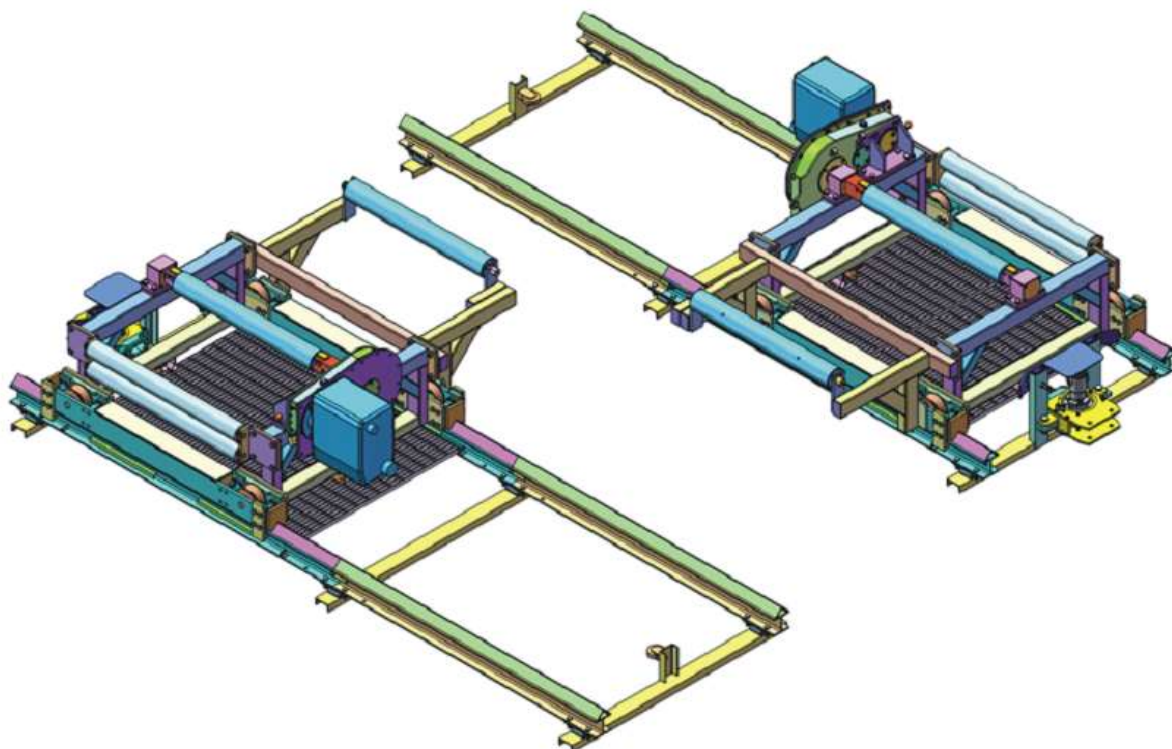
PNEUMATIC BELT WINDER

DESCRIPTION:

The NPP 1 pneumatic belt winder is a piece of machinery placed behind a belt conveyor. To drive the winding cylinders located in the frame NPP 1 uses a part of VP 40PD removal winch transmission and the pneumatic gear motor MPZ 15. This air motor allows to wind the belt to the winding cylinders by its driving force, and thus take and wind the belt that is left over after shortening of a belt conveyor. During shortening of a belt conveyor the belt is disconnected at the bottom branch above NPP 1. One end of the disconnected belt lining (from drive end) is secured on the main winding cylinder of NPP 1 using two M 16 bolts. The other end secured using shortening stops in front of stationary tensioning device (further called STANAP) that is a part of the conveyor belt. The operator starts NPP 1 and winds the extra belt lining on it. After winding of the extra length of belt onto the main winding cylinder the belt lining is cut and the remaining length is again connected by sewing to the existing one secured at STANAP. At NPP 1 the wound belt lining is rewound from the main winding cylinder to the back-up winding cylinder using the air motor with the gear from the VP 40PD removal winch. Winding to the main cylinder is done the same way during the second shortening of conveyor belt, but the belt from the back-up winding cylinder is connected by sewing to the existing belt in front of STANAP, however, it is not secured there. Both the necessary shortened length and the extra PVC from the back-up winding cylinder are wound to the main winding cylinder. After the shortened belt on the belt conveyor is connected, the extra belt is taken away. NPP 1, whose frame with the cylinders is placed on rails, can, by using MZPP 1.6t/3.2t handling device located on the NPP 1 construction, move this frame from under the belt conveyor to the passage under the hanging rail transport track. After the NPP 1 frame is moved under the transport track, the main winding cylinder that is secured (four M 16 bolts) in the frame is released and loaded on the hanging rail vehicles. A new main winding cylinder is then inserted to the empty frame of NPP 1, then it is secured, and the whole frame that is thus prepared is moved using MZPP 1.6t/3.2t under the conveyor belt construction behind the conveyor drive, and is ready for further use.

The basic NPP 1 parameters are the pulling force of 46.6 kN for belt winding, and 16 kN pulling force to transfer the NPP 1 frame. NPP 1 serves only for winding of belt lining and its transfer under the transport track. The maximum length of wound belt lining cannot exceed 100 m length, 1 400 mm width, and 4 000 kg weight.

NPP 1 is a device that can be operated in the underground parts of mines that are classified with methane explosion danger according to Section 232, Par. 1, Letter b) and coal dust according to Section 233, Par. 1, Letter b) of the CBU Notice No. 22/1989 Coll., as amended, including mines with the danger of rock falls and gas outbursts, and mines with dangerous mining tremors.



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------|--------------------|
| Belt winding pulling force | [N] | 46 600 |
| Frame transfer pulling force | [N] | 16 000 |
| Max. travel speed on level surface | [m.min. ⁻¹] | 24 |
| Belt winding installed power | [kW] | 15 |
| Frame transfer installed power | [kW] | 3 |
| Operational air pressure | [MPa] | 0,4 |
| Inside diameter of the supply hose | [mm] | 50 |
| Max. belt length | [m] | 100 |
| Max. width of belt | [mm] | 1 400 |
| Max. weight of belt | [kg] | 4 000 |
| Dimensions – h x w x l | [mm] | 5681 x 2659 x 1308 |



ISO 9001:2016



HYDRAULIC BELT AND CABLE WINCH NPKH 1

DESCRIPTION:

The NPKH 1 hydraulic belt and cable winch is a mechanical device hanging from a hanging track. NPKH 1 has a hydraulic motor that is connected to an auxiliary hydraulic circuit of a hanging locomotive (further only "LZH") through lever control after being connected using a hydraulic distributor connected to LZH. This hydraulic motor uses its power to turn the winch cylinder and thus to wind belts or cables placed on the floor of a mine tunnel.

The basic NPKH 1 parameters are the hydraulic power 1.1 MPa that is used on the hanging track with maximum 25° incline. NPKH 1 can be used for winding belts or cables only not for their transport. The maximum length of wound belt lining cannot exceed 100 m length, 1,200 mm width, and 4 000 kg weight. During transport of NPKH 1 to the place of manipulation with belt lining and back the prescribed transport speed of 6 km/hour cannot be exceeded.

NPKH 1 is a device that can be operated in the underground parts of mines that are classified with methane explosion danger according to Section 232, Par. 1, Letter b) and coal dust according to Section 233, Par. 1, Letter b) of the CBU Notice No. 22/1989 Coll., as amended, including mines with the danger of rock falls and gas outbursts, and mines with dangerous mining tremors.

NPKH 1 must be turned in longitudinal position to the hanging track and secured by a pin for the whole time of its transport to the place of manipulation with a belt lining. After the transport to the place of manipulation with a belt lining or cable the NPKH 1 must be unlocked and turned by 90° in such way that it is perpendicular to the hanging track. During winching the NPKH 1 is secured on the hanging track by LZH brakes and connected to LZH by a connecting rod with secured pins.

The end of belt lining (cable) is attached to NPKH 1, secured to the winching cylinder by two M 16 bolts and winching is started. The total length of winched belt may not exceed 100 m. If the length of belt lining is longer than 50 m, the belt must be folded in two in such way that no more than 50 m is pulled along the floor of the mining tunnel in order to lower pulling resistance.

After winching the rolled belt lining can be lowered to the floor and released using a push out cylinder that is a part of NPKH 1. Then the winch cylinder can be pulled vertically up and the rig can be moved away from the rolled belt lining in order not to be caught in it. Then NPKH 1 needs to be turned 90°, so it is longitudinal to the hanging track and secured in this position by a pin. After being secured by the pin against turning, NPKH 1 is ready for transport.



TECHNICAL PARAMETERS:

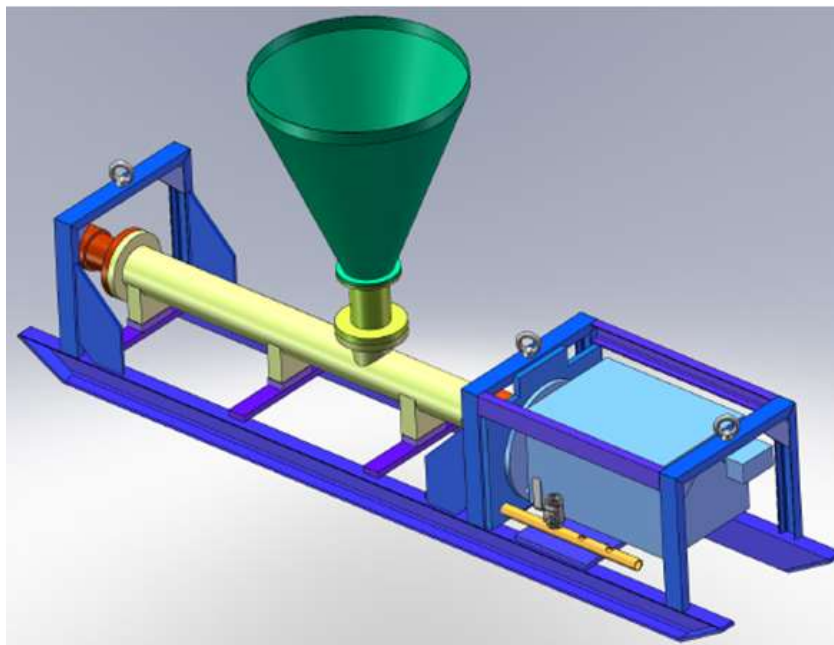
| | | |
|--|------------------------|----------------------------|
| Belt winding pulling force | [N] | |
| Max. travel speed on level surface | [km.h. ⁻¹] | 6 |
| Belt winding installed power | [kW] | 10 |
| Hydraulic circuit operational pressure | [MPa] | 16 |
| Inside diameter of the supply hose | [mm] | DN 10 |
| Max. belt length | [m] | 100 |
| Max. width of belt | [mm] | 1 200 |
| Max. weight of belt | [kg] | 4 000 |
| Dimensions – h x w x l | [mm] | 2135,5 x 340 x 1146 (1656) |
| Weight | [kg] | |

PNEUMATIC PLASTERING PUMP CPS 80 – 15kW

DESCRIPTION:

The CPS 80-15kW pneumatic plaster pump is used for transport of liquids and substances such as gypsum, ash and others with the maximum solid particle size of 5mm.

The CPS 80-15kW pneumatic plaster pump consists of a steel frame with the MPZ 15kW pneumatic gear motor with single-spindle 80-EFS pump. The pump has a removable hopper with a sieve and a rack. The density of pumped mixture in the pump can be regulated using pressure water.



TECHNICAL PARAMETERS:

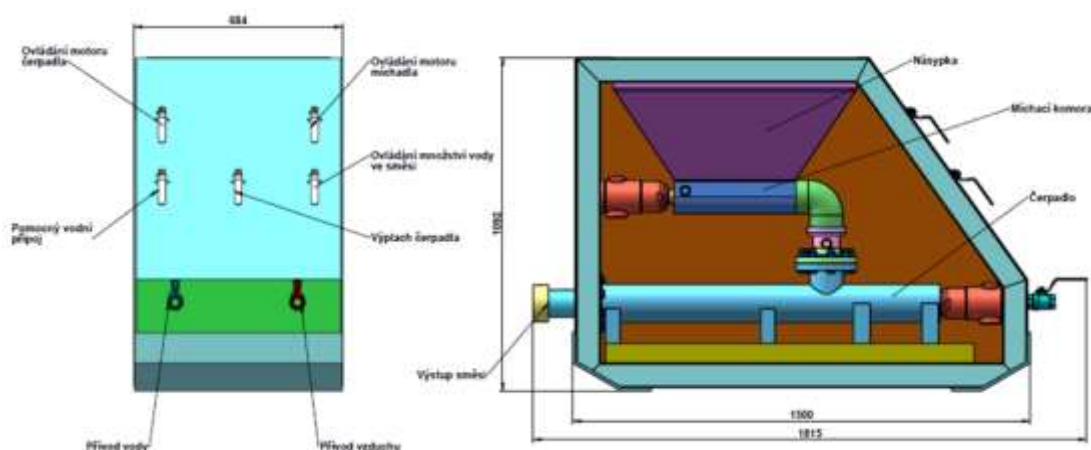
| | | |
|--|-----------------------------------|-------------------|
| Nominal pressure at the discharge outlet | [MPa] | 1,2 |
| Nominal flow per revolution | [cm ³] | 500 |
| Outlet neck | [mm] | 80 |
| Motor operational pressure | [MPa] | 0,4 |
| Nominal motor output | [kW] | 15 |
| Nominal revs | [mm ⁻¹] | 450 |
| Air consumption | [m ³ h ⁻¹] | 950 |
| Filtration | [μm] | 50 |
| Basic dimensions (w x l x h) | [mm] | 610 x 2210 x 1309 |
| Weight | [kg] | 450 |
| Air supply | [mm] | ø 50mm |

PNEUMATIC SPINDLE PUMP WITH HOPPER CPVP

DESCRIPTION:

The CPVP pneumatic spindle pump with hopper is used for transport of liquids and substances such as gypsum, ash and others with the maximum solid particle size of 5mm.

The CPVP pneumatic spindle pump with hopper consists of a steel frame with hopper and feeding screw powered by a multi-plate motor, single spindle EFS 250 pump powered by a multi-plate motor and pneumatic and water distribution. Density of pumped mixture in the pump can be regulated using pressure water.



TECHNICAL PARAMETERS:

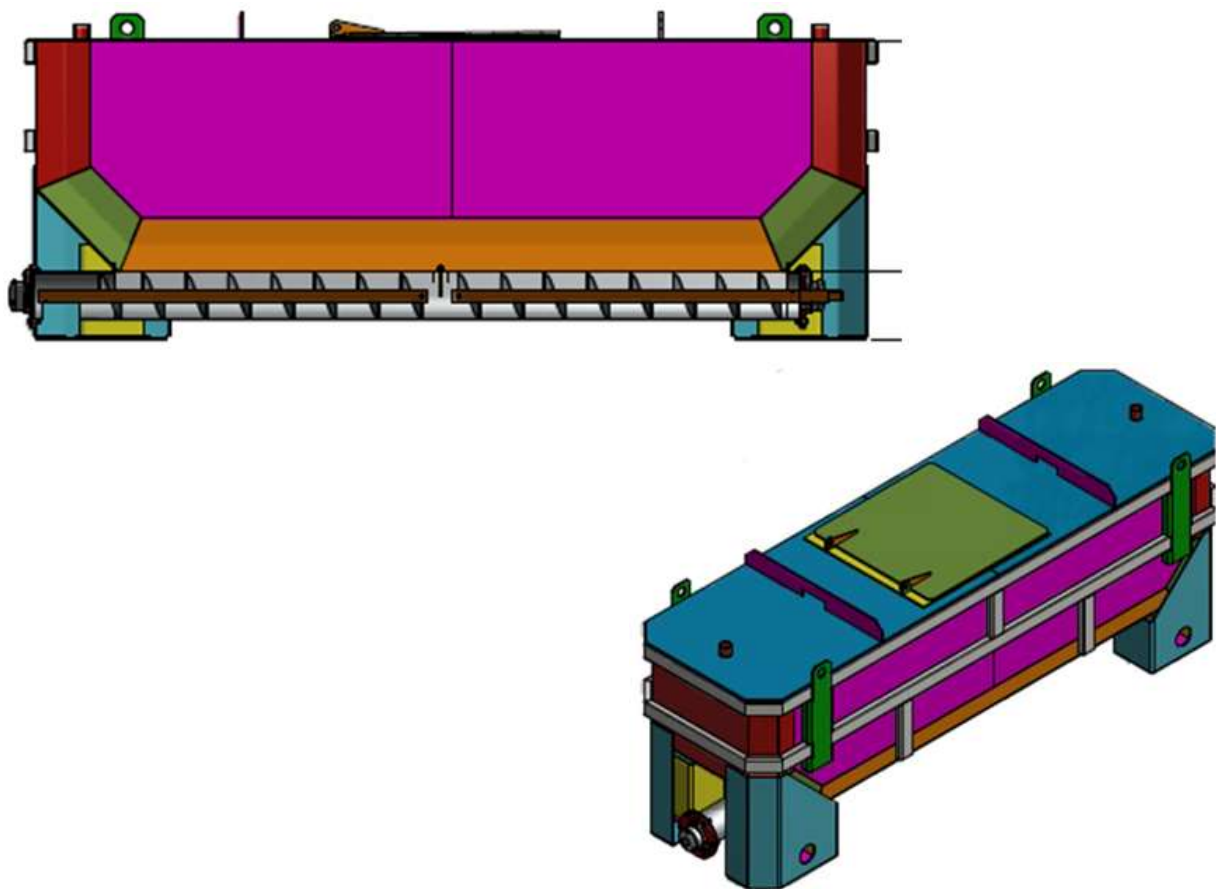
| | | |
|--|------------------------------------|---------|
| Nominal pressure at the discharge outlet | [MPa] | 0,6 |
| Outlet neck | [mm] | 50 |
| Transport output | [m ³ h ⁻¹] | cca 2,5 |
| Motor operational pressure | [MPa] | 0,4 |
| Nominal motor output | [kW] | 2 x 3 |
| Nominal spindle revolutions | [min ⁻¹] | 300 |
| Air consumption | [m ³ h ⁻¹] | 2 x 144 |
| Filtration | [µm] | 50 |
| Basic dimensions (w x l x h) | [mm] | |
| Weight | [kg] | cca 200 |
| Air supply | [mm] | Ø 32mm |

ENCLOSED CONTAINER WITH HYDRAULIC OUTPUT SCREW KUVH 2

DESCRIPTION:

The KUVH 2 enclosed container with hydraulic output screw is used for transport of bulk material like ash and similar materials with the max. solid particle size of 5 mm.

The KUVH 2 enclosed container with hydraulic output screw consists of a steel frame with opening lid and screw output mechanism at the bottom that is powered by a hydraulic motor. The container can be transported along a hanging track or on a UNI undercarriage.



TECHNICAL PARAMETERS:

| | | |
|---------------------------------|----------------------|--------------------|
| Container volume | [m ³] | 2 |
| Operational oil pressure - max. | [MPa] | 17,5 |
| Nominal motor output | [kW] | 12,5 |
| Screw feeder revs - max. | [min ⁻¹] | 55 |
| Basic dimensions (w x l x h) | [mm] | 3170 x 930 x 11100 |
| Weight | [kg] | approx. 950 |
| Work medium | | Oil, HPL VG-46 |

MPB 140 PNEUMATIC DRUM MIXER

DESCRIPTION:

The MPB 140 pneumatic drum mixer can be used for mixing of concrete and construction mixtures in the explosion danger environment.

The MPB 140 pneumatic drum mixer consists of the pipe frame, steel drum that is driven by the pneumatic engine through a worm-gear unit and the pneumatic distribution box with control.



TECHNICAL PARAMETERS:

| | | |
|------------------------------------|-------------------------------------|-------------------|
| Operating pressure | [MPa] | 0,4-06 |
| Nominal motor output | [kW] | 1,8 |
| Drum volume | [l] | 140 |
| Mixture volume | [l] | 85/105 |
| Air consumption | [m ³ min ⁻¹] | 2,1 |
| Filtration | [µm] | 50 |
| Basic dimensions | [mm] | 1260 x 1330 x 750 |
| Weight | [kg] | cca 80 |
| Inside diameter of the supply hose | [mm] | Ø 19mm |