

# Versatile portable helical-rotor pump 3/4"-EQR

## Application

Helical-rotor pump 3/4"EQR-16-4 coupled with an electric motor represents a small and serviceable pump-set available for the widest circle of consumers.

In practice that pump-set may cope with various applications, e.g.:

- drainage of flooded spaces
- Pumping-out underground and waste water
- Pumping out of emergency supplies, pumping-out dugouts, long distance transport of water
- Spraying playgrounds and decorative areas
- Watering gardens, parks and smaller lands
- Pumping sludge, sewage, liquid manure and other homogeneous stuffs with content of solids

That pump may be used not only in one-family houses but also as auxiliary equipments in industrial and other branches with pumping from surface and underground supplies, e.g. out of rivers, ponds, sumps, pools, cellars, wells. That pump-set with exchangeable hydraulics 3/8"-EQR-16-10 can cope with minute quantities of water with delivery pressures up to 10 bar. It proves to be excellent with spraying trees, shrubs and plants against vermin with chemical agents, so that pump is a good helper of amateur gardeners, small growers, gardenings, cultivation and research institutions. Further, it may be applied to sanitary purposes, whitewashing with lime milk, spraying colours, bleaching clay, China clay and other diluted paints for plasters of residential and industrial buildings and out-buildings, and so on.

Max. temperature of a pumped stuff ..... 50 °C

Max. size of mechanical

impurities (reduced service life) ..... 5 mm

## Construction

That pump is of helical-rotor type, its constructional and functional features seem to be very simple. Metallic rotor (that is a helix of screwed shape) as its main part rotates in a cavity of the stator rubber liner. Simple design allows easy assembly and disassembly. That pump-set is placed on a simple frame being provided with rubber damping inserts. Further, it is provided with a handle to ensure comfortable carrying. Motor is of asynchronous squirrel-cage enclosed type, with own surface cooling. That pump-set may be put into operation with switching-on an electrical switch, serving also as an electric motor protection with haphazardous overloading, e.g. folding a discharge hose.

From principle of a helical rotor pump which may be characterized with minimal number of parts there good properties of the whole pump-set have resulted, and these are: small dimensions and weight, easy carrying and controllability, long-term continuous output owing to good service life of working parts, wear of which is extra small, especially with pumping clean water.

## Exchangeable hydraulics 3/8" - EQR - 16 - 10

With the 3/4"-EQR-16-4 suitable completing it is possible to enlarge its fields of application. Modular, unit construction allows to replace the pump for the 3/8"-EQR-16-10 one, with keeping-up the whole motor unit to reach change of output parameters.

That exchangeable part 3/8"-EQR-16-10 is available on request, together with accessories for both suction and discharge sides.

**For that exchangeable hydraulics it is not allowed to use connections with a discharge hose from the 3/4"-EQR-16-4 pump-set!**

## Material options

With a standard workmanship there the pump main parts are produced of following constructional materials:

Suction casing	- grey cast iron
Discharge casing	- malleable cast iron
Helix	- stainless steel
Helix head	- constructional carbon steel
Connection rod	- carbon steel
Stator liner	- special technical rubber

## Accessories and equipment, considering workmanship

Single versions may be supplied together with accessories, as mentioned below:

**Workmanship „S“ (single)** - pump-set without a frame and accessories; that is, a pump with three-phase electric motor.

### Workmanship with peripheral electrics

- Pump-set attached to a frame
- Circuit breaker for pump-set manual control
- Connecting cable in length of 16 m with a plug

### Workmanship with electrical hydraulic accessories

- Pump-set attached to a frame
- Circuit breaker for pump-set manual control
- Connecting cable in length of 16 m, with a plug
- Suction pipe DN 25, PN 6, in length of 5 m with connection Ke 279-1", for attachment to the pump suction branch
- Inlet bellmouth
- Discharge hose DN 20, in length of 12.5 m, with connection Ke 280-3/4" (Ke 280-3/8") for connection to the pump discharge branch
- Sprayer (jet) of type AQUA-3/4" (with exchangeable hydraulics 3/8"-EQR there a lever-type cock with adapters and a set of jets are used)

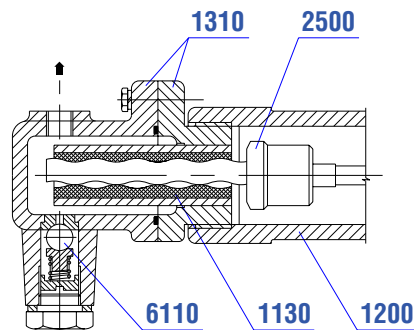
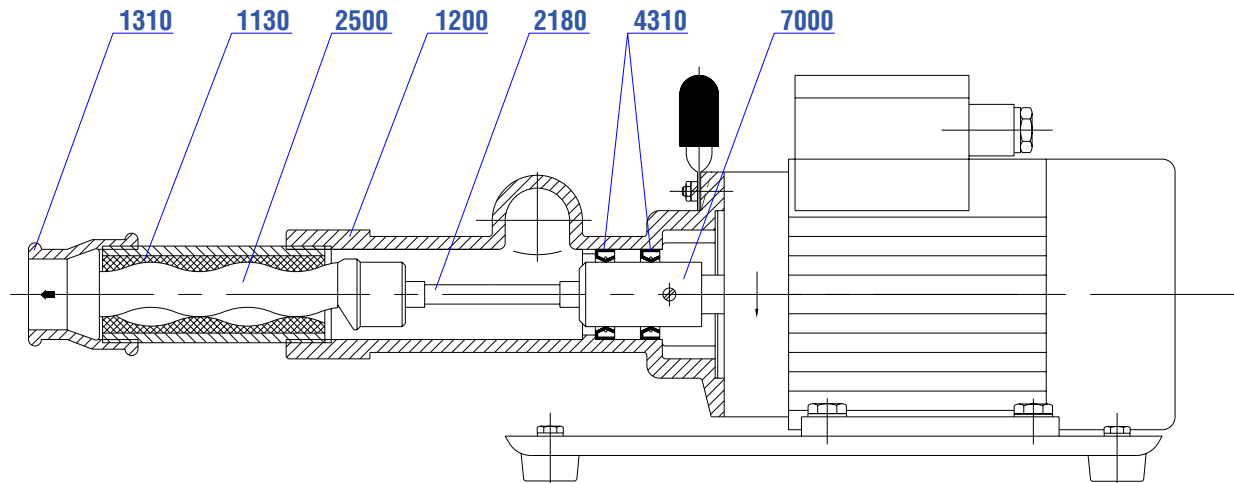
Hydraulic accessories (that is: suction hose, inlet bellmouth, discharge hose, sprayer) may also be ordered singly, either for suction, or for discharge.

Discharge hose is of plastic materials (nominal pressure 10 bar) or rubber (nominal pressure 8 bar) for compressed air and water. Provided the runner supplies a hose of his own choice, then it will be necessary to use hoses of above-mentioned sorts and pressure for reasons of safety.

The manufacturer does not exclude possibility of using other sorts of jets and hoses.

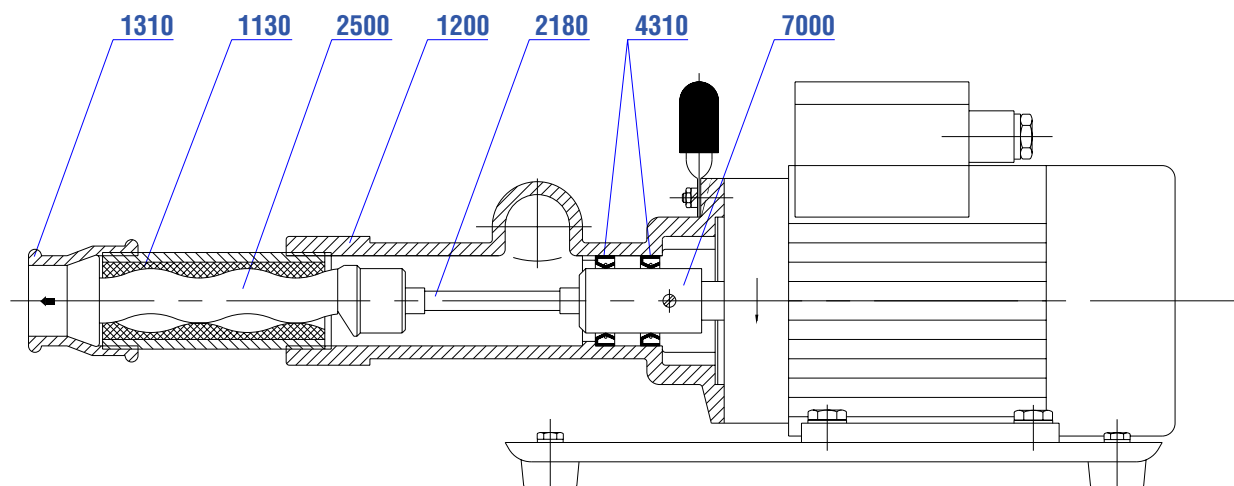
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### Informatory cross-section through exchangeable hydraulics of pump 3/4"-EQR



- 1130 Stator
- 1200 Suction casing
- 1310 Discharge casing with liner
- 2180 Connection rod
- 2500 Helix
- 4310 Radial lip seal ring „gufero“
- 6110 Relief valve
- 7000 Shaft coupling

### Informatory cross-section through pump-set, with pump 3/4"-EQR



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## Performance data

Pump-set type			3/4"-EQR-16-4	Exchangeable hydraulics 3/4"-EQR-16-10
<b>Pump</b>				
Capacity	Q	l.s <sup>-1</sup>	0,65	0,05
Delivery head	H <sub>max</sub>	(m)	40	100
Delivery pressure	p <sub>s man</sub>	(MPa)	0,40	1,00
Manometric pressure at pump inlet section	p <sub>do</sub>	(MPa)	-0,04	-0,02
Suction branch dia.	DN		1"	1"
Discharge branch dia.	DN		3/4"	3/8"
<b>Electric motor</b> - type			4AP-80-2s	4AP-80-2s
Power	P	(kW)	0,75	0,75
Speed	n	(min <sup>-1</sup> )	2840	2840
Voltage	U	(V)	400	400
Current (cut-out)	I	(A)	1,8	1,8
Frequency	f	(Hz)	50	50
Connecting cable			CGSG 48 x 0,75	CGSG 48 x 0,75
Cable standard length		(m)	16	16
Covering			IP 54	IP 54
Pump-set weight without peripheral electrics		(kg)	13,8	14
Pump-set dimensions: length / width / height		(mm)	560/265/220	560/265/220

Above-mentioned performance data Q; p<sub>perm</sub> are valid for pumping clean water of temperature 25 °C and manometric pressure at the pump inlet section p<sub>s man</sub> = -0,4 bar.

## Pump selection chart

