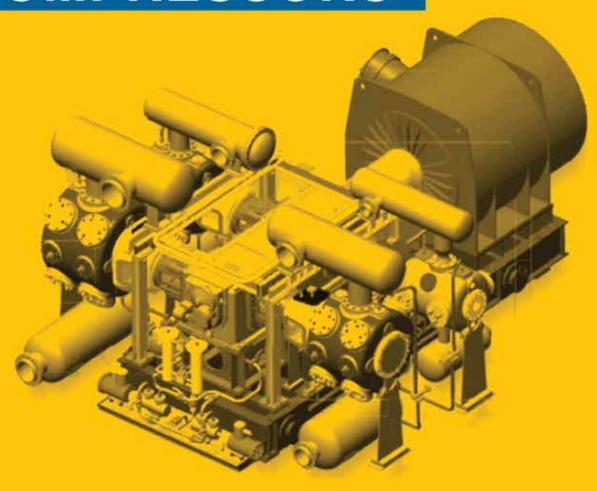




RECIPROCATING COMPRESSORS





PARS COMPRESSOR

Pars Compressor Mfg & ind Co. Has been Manufacturing air compressor Packages since 1975. This company is the oldest and largest Manufacturer of screw compressors and is known as a leading company compressors.

During the last 3 decades and since the establishment of this company, it is one of the largest manufacturer of mining and industrial compressors in the whole Middle East region. This Company has qualified in OIL ministry long list and NISOC AVL as air compressor package manufacturer and selected as qualified manufacturer for R&D projects about API compressor machines.

Recently We have started manufacturing and/or packaging Reciprocating gas compressors in accordance with API618- in a joint venture agreement with reputable international scale compressor manufacturers.

Our partners (NEA, SIAD and ABC) would provide the compressor bare block and we will complete the package with our in house technology/data.

We offer a complete range of oil-lubricated and oil-free gas compressors suitable for any application and environment based on API- 618. All our products can be customized to your specifications and requirements.

Our reciprocating type compressor packages are capable of continuous duty with low levels of maintenance and are suitable for high temperature environments. Our reciprocating compressors can be delivered in different setups: horizontal (opposed) as per API -618 vertical or V-type for general applications. Depending on the application and available space we can help you decide which type would be best suitable for your request. Reciprocating compressors are available in a wide range of capacities and can go up to very high pressures. The ange of each compressor type can be found here.

Features:

- PEasy and low maintenance level
- Low noise frequency
- Suitable for high temperature environments and high pressures
- Suitable for earthquake areas
- Available in oil-lubricated and oil-free

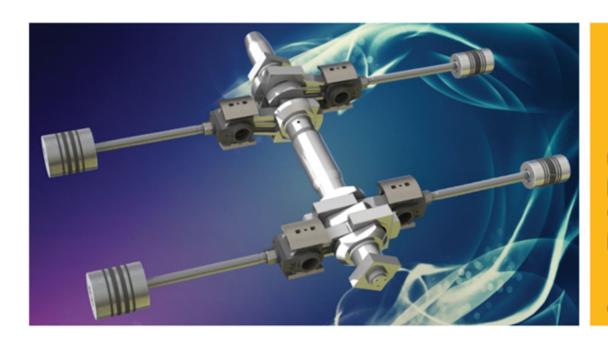






The following is only a short list of all available options that can be included on our reciprocating compressors:

- Compressor design according to API 618
- LV, MV or HV electric motor with 50 Hz
- Diesel engine with hydraulic, pneumatic, electric or mechanical starter (different options can be combined)
- Generator can be included connected to diesel engine to make package self-sufficient
- Steam turbine drive
- Air coolers designed according to API661 and/or TEMA-C for shell and tube heat exchangers
- Closed cooled water system with/without water chiller
- Seawater cooling
- Complete control system with redundant and/or SIL certified PLC
- Control panel with HMI for operation via keypad or touch screen
- Stainless steel components such as oil system, process piping, control panels, coolers, instruments and separators
- ATEX explosion proof equipment, suitable for operation in Zone 1 or Zone 2 environment
- Tropicalization for extreme high ambient temperatures up to 55°C
- Vibration monitoring system by 4-20 mA detectors or sophisticated Bently system.

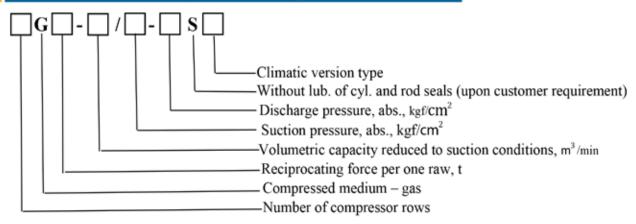




Main Types of Reciprocating Compressors based on CST/ SUMY Designation:

No.	Base designation	Number of rows	Maximum reciprocating force. (N)	shaft rotational speed, rpm	Type of bearings
1	2GM2.5	2	2.5	1000	roller
2	4GM2.5	4	2.5	1000	roller
3	2GM4	2	4.0	750	sliding
4	2GM10	2	10.0	600	sliding
5	4GM10	4	10.0	600	sliding
6	2GM10A	2	10.0	1000	sliding
7	2GM16	2	16.0	375	sliding
8	4GM16	4	16.0	375	sliding
9	4GM25	4	25.0	375	sliding
10	6GM25A	6	25.0	1000	sliding
11	GT1	1	1.0	1000	roller
12	2GT1.6	2	1.6	1000	roller
13	6W	6	1.6	1500	roller

Reciprocating compressor designation structure:



Compressor designation example:

4GM10-48/2-57S UHL4

4 - number of rows;

G - gas (compressed medium);

M10 - opposite with reciprocating force for one row - 10 t:

48 - volumetric capacity reduced to suction conditions, m³/ min:

absolute suction pressure, kgf/cm²;
 absolute discharge pressure, kgf/cm²;

S - version without lubrication of cylinders and rods seals;

UHL4 - project climate specification number (example)

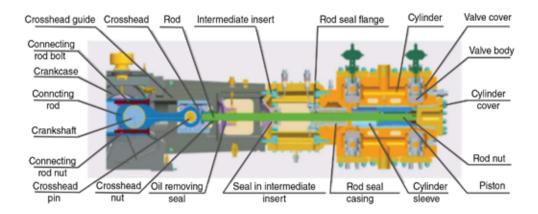
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Basic Design Solutions:

Design solutions		Compressor base:						
Number of rows	Design solutions	Mos	M 4	M 10			M 25	M 25A
Number of main bearings Moving mechanism lubrication Lube oil pump drive Bearing gear Ino no yes no yes yes no End of crankshaft Lubrication of cylinders and rod seals Intermediate insert Main parts manufacturing method: Crankshaft Stamping of bar stock Casting Connecting on machining of bar stock Consehead pin Consehead pin Connecting on machining of bar stock Stating Cylinder Casting/Forging/Forging+welding Casting/Forging welding Casting/Forging Stamping Stam	Number of rowe				IVI TOA			
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Lube oil pump drive Bearing gear no no yes no yes yes no End of crankshaft Lubrication of cylinders and rod seals Intermediate insert Main parts manufacturing method: Crankshaft Connecting od bolt Connecting od bolt Considerad in the mediate insert Costing Connecting od bolt Connecting of bolt Connecting of bolt Connecting od bolt Connecting of bolt C	Moving mechanism	Sprinkling						
Bearing gear no no no yes no yes no End of crankshaft	Lube oil pump		-	(Crank shaft di	riven / Auxiliary	electric motor	
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Lubrication of cylinders and rod seals					Keyed/f	lange		
Insert Main parts manufacturing method: Crankcase Crankshaft Connecting rod Connecting rod bolt Connectingrod bolt Crosshead Crasting Crosshead Casting Forging or machining of bar stock Crosshead pin Crosshead pin Crosshead nut Intermediate Insert Cylinder Cylinder Cylinder cover Cylinder cover Cylinder cover Cylinder Casting/Forging Forging or machining of bar stock Casting/Forging or machining Casting/Forging/Forging+welding Cylinder cover Casting/Forging or machining of bar stock Crosshead nut Forging or machining of bar stock Casting Casting Casting Casting/Forging/Forging+welding Cylinder sleeve Cylinder sleeve Cylinder over Casting/Forging Forging or machining of bar stock Valve cover Forging Forging Sheet machining	cylinders and		lubrication/ w/o	lubrication/ w/o		***************************************	lubrication/ w/o	
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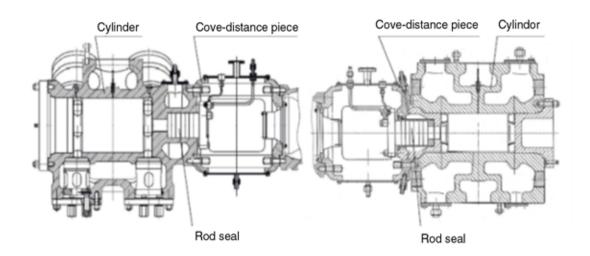


Compressor

- Forged steel crankshaft for heavy duties.
- Horizontally balanced opposite rows.
- Crossheads made of casted steel with iron shoes (Babbitt filled) or aluminum shoes.Forced lube oil supply under pressure to upper and lower sliding surfaces for minimum wear.
- Forged steel connecting rods.
- Barring gear

Cylinders and piston groups

- Cylinders with bottom part and rod seals mounted therein and without bottom part with rod seals mounted into intermediate insert
- 2. Guide (journal) rings of pistons for lubricated and non-lubricated operation.
- 3. Indication of cylinder cavities.
- 4. Rod seals purging
- Rod seals cooling with cooling fluid (water, anti-freezing agent) or oil.
- Cylinders structure without cooling or with cooling with cooling fluid.
- 7. Piston rods made of alloyed or corrosion resistant steel.



Valves

Disk, ring or band automatic valves depending on compressed gas and average speed of piston.

Capacity regulation devices (unloaders)

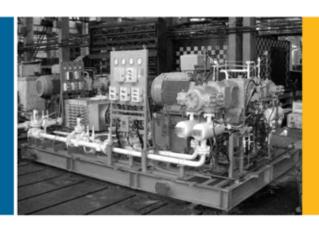
- 1. Additional dead space.
- 2. Pressing of plates of suction valves (Hoerbiger, CPI, ...).

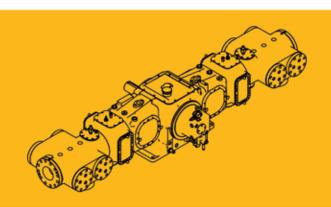
Pulsation suppression device

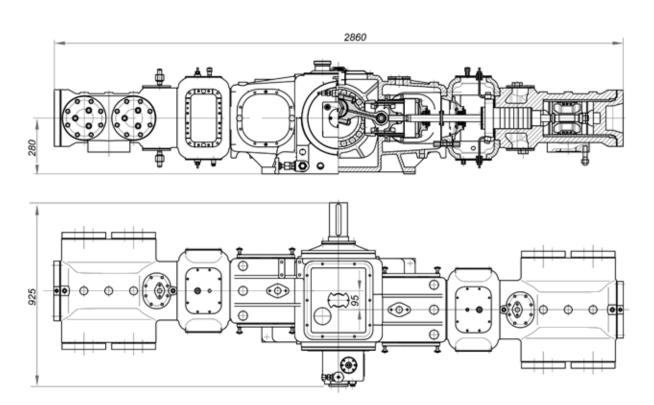
Buffer suction and discharge vessels for each compressor stage.



Compressor on 2GM2.5 base

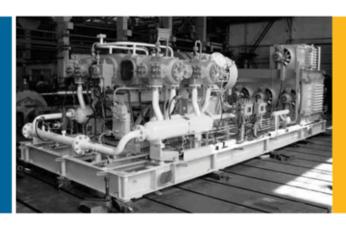


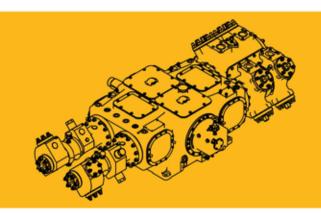


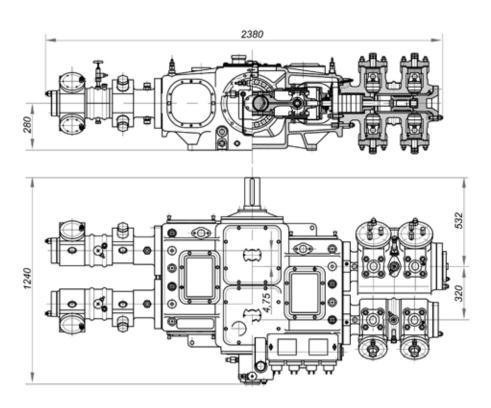


Specifications			
Type of compressor		reciprocating, double row on opposite base 2GM2.5	
Reciprocating force	t	2.5	
Number of rows		2	
Piston stroke	mm	100	
Maximum rotational speed of crankshaft	rpm	1000	
Maximum capacity at compressor shaft	kW	130	
Type of bearings		roller bearings	

Compressor on 4GM2.5 base

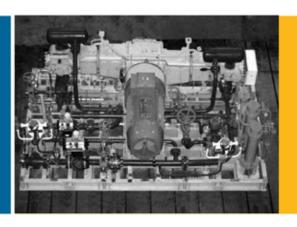


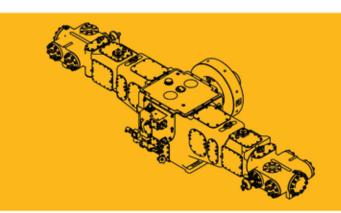


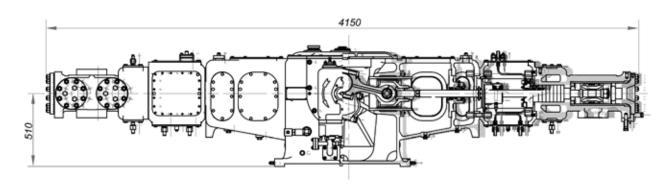


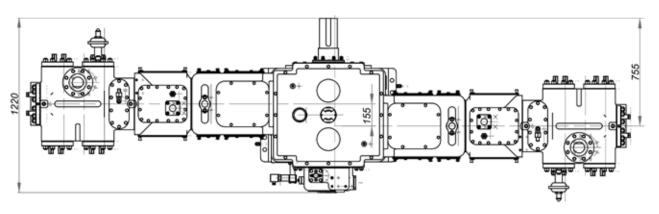
Specifications		
Type of compressor		reciprocating, four row on opposite base 4GM2.5
Reciprocating force	t	2,5
Number of rows		4
Piston stroke	mm	100
Maximum rotational speed of crankshaft	rpm	1000
Maximum capacity at compressor shaft	kW	260
Type of bearings		roller bearings

Compressor on 2GM4 base





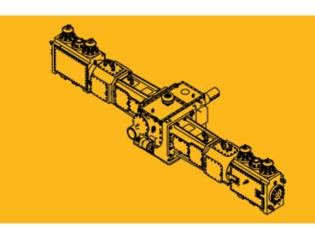


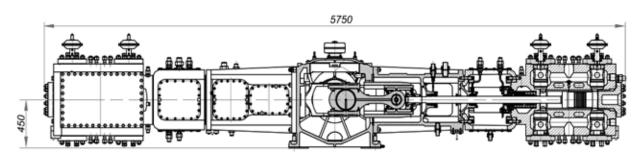


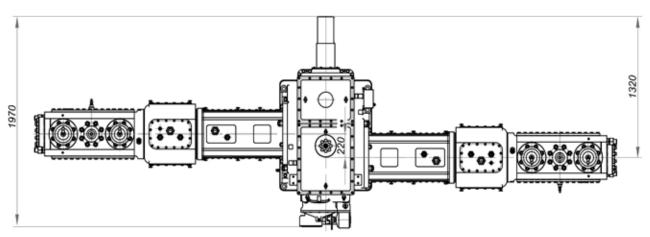
Specifications			
Type of compressor		reciprocating, double row on opposite base 2GM4	
Reciprocating force	t	4	
Number of rows		2	
Piston stroke	mm	150	
Maximum rotational speed of crankshaft	rpm	750	
Maximum capacity at compressor shaft	kW	200	
Type of bearings		sliding bearings	

Compressor on 2GM10 base



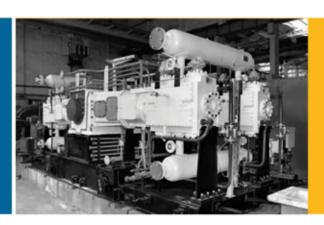


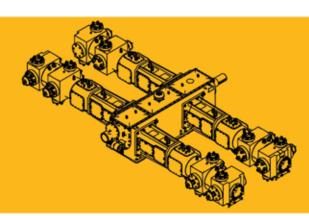


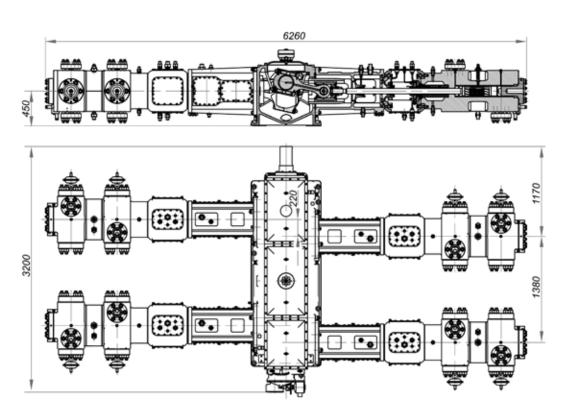


Specifications Specification Specificatio			
Type of compressor		reciprocating, double row on opposite base 2GM10	
Reciprocating force	t	10	
Number of rows		2	
Piston stroke	mm	220	
Maximum rotational speed of crankshaft	rpm	600	
Maximum capacity at compressor shaft	kW	580	
Type of bearings		sliding bearings	

Compressor on 4GM10 base



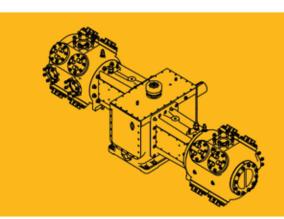


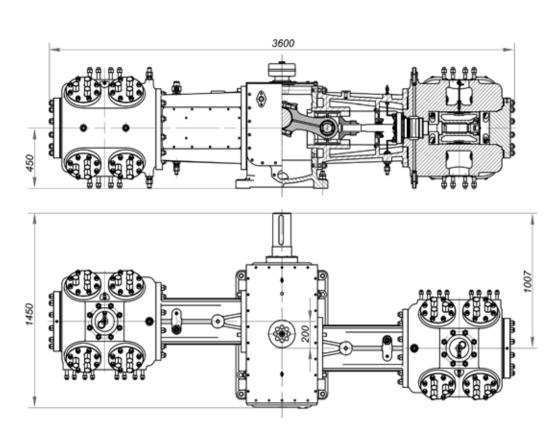


	Specification	ns
Type of compressor		reciprocating, double row on opposite base 4GM10
Reciprocating force	t	10
Number of rows		4
Piston stroke	mm	220
Maximum rotational speed of crankshaft	rpm	600
Maximum capacity at compressor shaft	kW	1000
Type of bearings		sliding bearings

Compressor on 2GM10A base



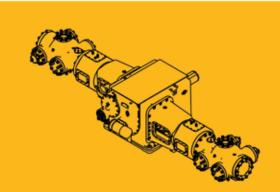


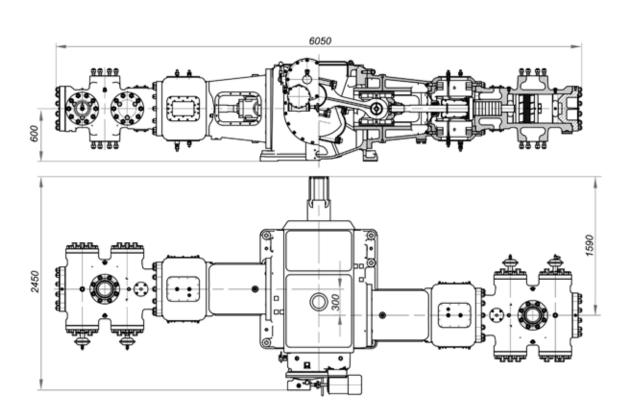


	Specification	ons
Type of compressor		reciprocating, double row on opposite base 2GM10A
Reciprocating force	t	10
Number of rows		2
Piston stroke	mm	150
Maximum rotational speed of crankshaft	rpm	1000
Maximum capacity at compressor shaft	kW	580
Type of bearings		sliding bearings

Compressor on 2GM16 base



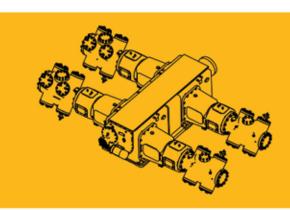


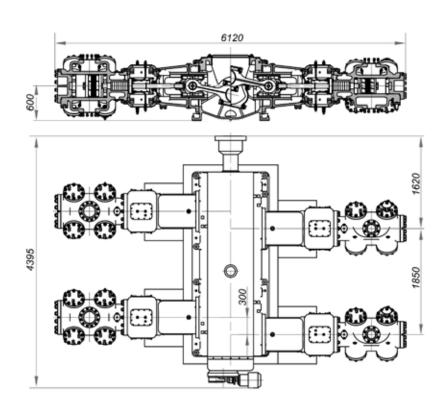


	Specification	ons
Type of compressor		1.reciprocating, double row on opposite base 2GM16
Reciprocating force	t	16
Number of rows		2
Piston stroke	mm	320
Maximum rotational speed of crankshaft	rpm	375
Maximum capacity at compressor shaft	kW	1110
Type of bearings		sliding bearings

Compressor on 4GM16 base



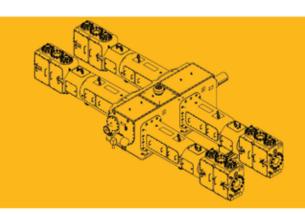


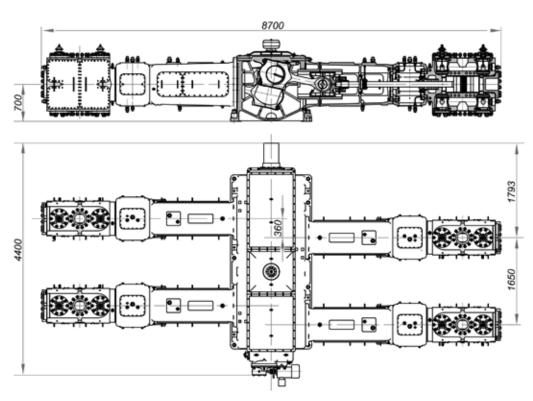


Specifications			
Type of compressor		reciprocating, double row on opposite base 4GM16	
Reciprocating force	t	16	
Number of rows		4	
Piston stroke	mm	320	
Maximum rotational speed of crankshaft	rpm	375	
Maximum capacity at compressor shaft	kW	2200	
Type of bearings		sliding bearings	

Compressor on 4GM25 base



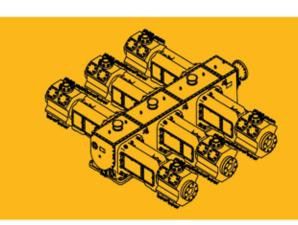


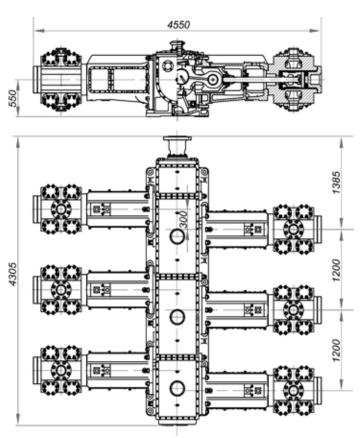


Specifications		
Type of compressor		reciprocating, double row on opposite base 4GM25
Reciprocating force	t	25
Number of rows		4
Piston stroke	mm	400
Maximum rotational speed of crankshaft	rpm	325
Maximum capacity at compressor shaft	kW	3100
Type of bearings		sliding bearings

Compressor on 6GM25A base





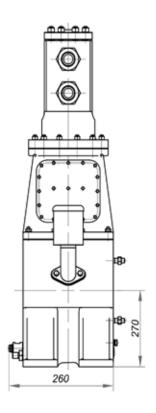


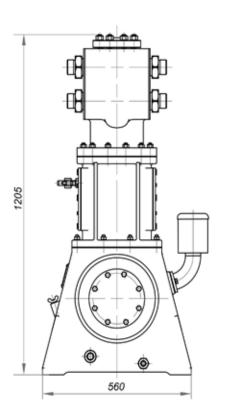
Specifications		
Type of compressor		reciprocating, six row on opposite base 6GM25A
Reciprocating force	t	25
Number of rows		6
Piston stroke	mm	150
Maximum rotational speed of crankshaft	rpm	1000
Maximum capacity at compressor shaft	kW	4700
Type of bearings		sliding bearings

Compressor on GT1 base



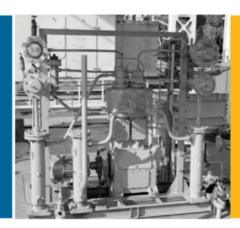




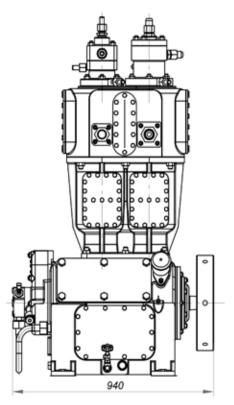


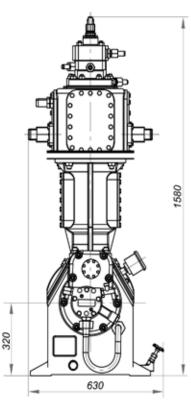
Specifications				
Type of compressor		reciprocating, vertical, crosshead, based on GT1		
Reciprocating force	t	1.0		
Number of rows		1		
Piston stroke	mm	60		
Maximum rotational speed of crankshaft	rpm	1000		
Maximum capacity at compressor shaft	kW	20		
Type of bearings		roller bearings		

Compressor on 2GT1.6 base





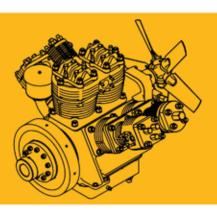


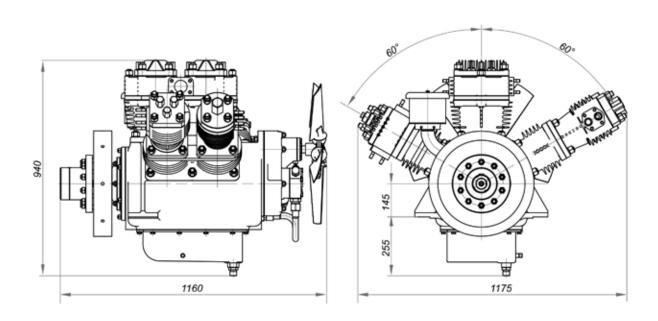


Specifications Specification Specific				
Type of compressor		reciprocating, vertical, crosshead, based on 2GT 1.6		
Reciprocating force	t	1.6		
Number of rows		2		
Piston stroke	mm	60		
Maximum rotational speed of crankshaft	rpm	1000		
Maximum capacity at compressor shaft	kW	45		
Type of bearings		roller bearings		

Compressor on 6W base







Specifications				
Type of compressor		reciprocating, crosshead, W-shaped, with cylinders' air cooling		
Reciprocating force	t	1.6		
Number of rows		6		
Piston stroke	mm	60		
Maximum rotational speed of crankshaft	rpm	1500		
Maximum capacity at compressor shaft	kW	75		
Type of bearings		roller bearings		





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