

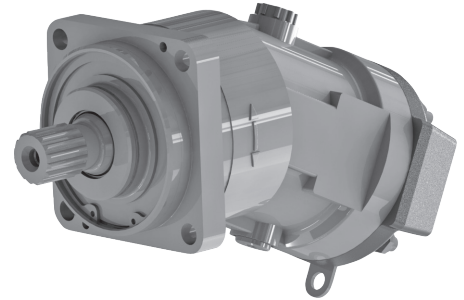
MBF10

MBF10 - series of axial piston fixed displacement motors in bent-axis design. They have an aluminum alloy body and designed for hydraulic systems of mobile machines of different purposes.

The **MBF10** model range includes motors with displacement 28, 56 and 112 cm³.

DESIGN FEATURES

- Open and closed circuits.
- The angle of inclination the block cylinder 26 degrees.
- Tapered roller bearings, allow the motor shaft to withstand high radial and axial loads.
- Bimetallic block cylinder of motor has a high wear resistance.
- Resistant to corrosion durable and lightweight body with high strength aluminum alloy.
- Hydraulic equipment optional.
- Maximum pressure 400 bar.



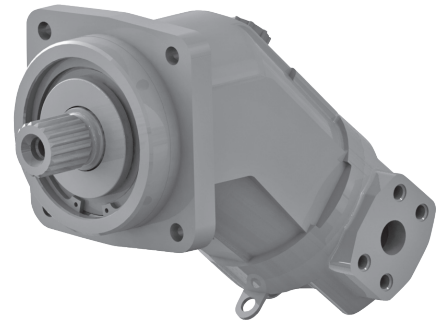
MBF20

MBF20 - series of axial piston fixed displacement motors in bent-axis design. They have an cast iron body and designed for hydraulic systems of mobile machines operating in severe conditions.

The **MBF20** model range includes motors with displacement 56, 80 and 107 cm³.

DESIGN FEATURES

- Open and closed circuits.
- The angle of inclination the block cylinder 40 degrees.
- High hydromechanical efficiency.
- Tapered roller bearings, allow the motor shaft to withstand high radial and axial loads.
- Bimetallic block cylinder of unit has a high wear resistance.
- Conical plungers with compression rings.
- High cast iron body.
- Hydraulic equipment optional.
- Maximum pressure 450 bar.



MBF10

FIXED DISPLACEMENT AXIAL PISTON MOTORS

Order code

MBF10 . 4 . 56 . 00 . 0 6 N

FIXED DISPLACEMENT BENT-AXIS AXIAL PISTON MOTOR	MBF10
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MODEL ¹⁾	2*	4
	●	●

DISPLACEMENT, CM ³		CODE
28	●	28
56	●	56
112	●	112

SHAFT OPTIONS	28	56	112	CODE
Splined shaft GOST 6033-80	-	●	●	00
Splined shaft GOST 6033-51	●	-	-	
Splined shaft GOST 23360	●	●	●	01
Splined shaft GOST 6033-80	●	-	-	07
Splined shaft DIN 5480 ²⁾	-	●	●	OE
Splined shaft DIN 5480 ³⁾	-	●	●	OF

BUILD-IN HYDRAULIC AND ELECTRICAL EQUIPMENT	28	56	112	CODE
Not available	●	●	●	0
Flushing valve	●	●	-	7
Speed sensor (no hydraulic equipment)	-	●	●	9

SPECIAL FEATURES**	CODE
Speed sensor (with build-in hydraulic equipment)	7

CLIMATIC VERSION	CODE
Temperate	N
Tropical	T

WORKING PORTS OPTION	28	56	112	CODE
Two threaded ports on the rear (at 25° to the shaft axis)	●	-	-	0
Two threaded ports on the rear (parallel to the shaft axis)	●	-	-	1
Two threaded ports on the rear (at 50° to the shaft axis)	●	-	-	2
Four threaded ports, two on the sides, two on the rear	●	●	-	3
Four threaded ports, two on the sides, two on the rear (M33x2)	-	●	-	D
Two flanged ports on the rear	-	●	●	6
Two flanged ports on the sides (only with flushing valve)	-	●	-	E
Two threaded ports on the sides (only with flushing valve)	●	-	-	9
Two flanged ports on the sides	-	●	-	F

¹⁾ * 2- with ball bearings and brass cylinder block (only for size 28)

4 - with cone bearings, bimetallic cylinder block

²⁾ side balanced

³⁾ side balanced, reduced diameter

** Special option code - assigned if necessary after agreement of special conditions with the customer

Notes:

● Standart; ○ Optional; - Not available

FIXED DISPLACEMENT AXIAL PISTON MOTORS

TECHNICAL SPECIFICATIONS

SIZE		MBF10.2.28	MBF10.4.56	MBF10.4.112	MBF20.56	MBF20.80	MBF20.107
Displacement, Vg	cm³	28	56	112	56,1	80,4	106,7
Speed:	min ⁻¹						
minimum		50					
rated		1920	1800	1200	2000	1800	1600
maximum		4750	3750	3000	5000	4500	4000
Inlet pressure, P	bar						
rated		200	250		400		
maximum		320	400		450		
Outlet pressure, P	bar						
maximum		200			250		
rated					200		
Maximum drain pressure	bar	1	2,5				
Inlet flow*, Q	l/min						
minimum		1	3	6	3	4	5
rated		54	101	134	112	145	171
maximum		133	210	336	281	362	427
Torque*, T	Hm						
rated		89	223	446	357	512	680
maximum		143	357	713	402	576	765
Output power*, N	kW						
rated		18	42	56	75	96	114
maximum		71	140	224	210	271	320
Efficiency							
hydromechanical		0,95			0,94		
total efficiency		0,95					
Weight (without fluid)	kg	9	17	29	18	23	32

* Without efficiency

FORMULAS

Inlet flow $Q = \frac{V_g \cdot n}{1000 \cdot \eta_v}$ [l/min]

Torque $T = \frac{1.59 \cdot V_g \cdot \Delta p \cdot \eta_{mh}}{10} = \frac{V_g \cdot \Delta p \cdot \eta_{mh}}{20 \cdot \pi}$ [N·m]

Power $P = \frac{T \cdot n}{9549} = \frac{2 \cdot \pi \cdot T \cdot n}{60000} = \frac{Q \cdot \Delta p \cdot \eta_t}{600}$ [kW]

V_g — displacement [cm³]

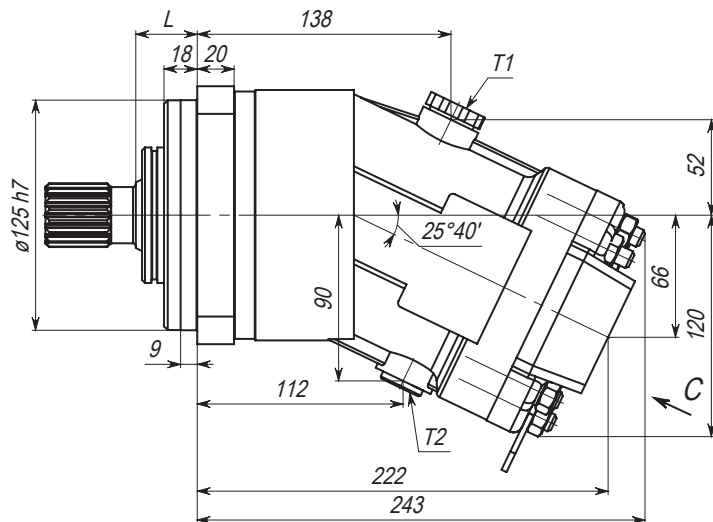
Δp — pressure drop [bar]

n — speed [min⁻¹]

η_v — volumetric efficiency

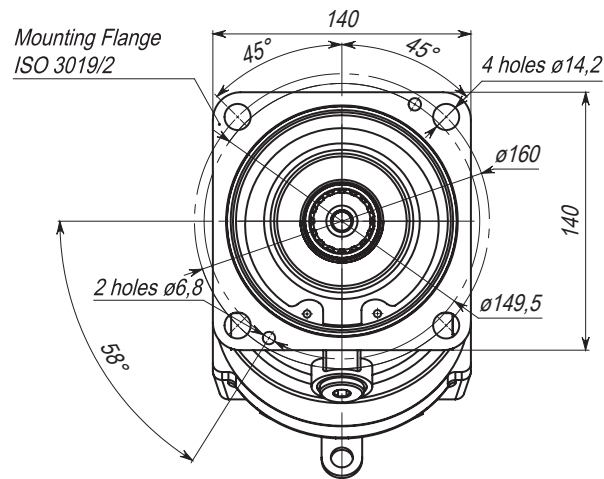
η_{hm} — hydromechanical efficiency

η_t — overall efficiency

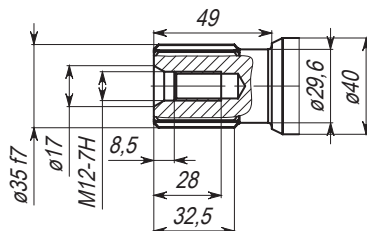
MBF10 MOTORS DIMENSIONS, SIZE 56 CM³


T1, T2 - drain line M18x1,5-18 DIN 3852

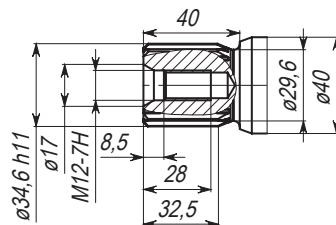
L = 32 mm for splined shafts according to DIN, for all other L = 33,5 mm


DRIVE SHAFTS

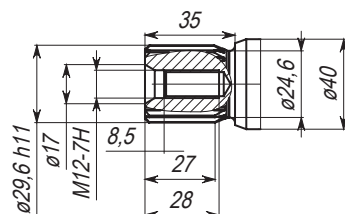
00 | Splined shaft 35x7x2x9g
GOST 6033-80, z16



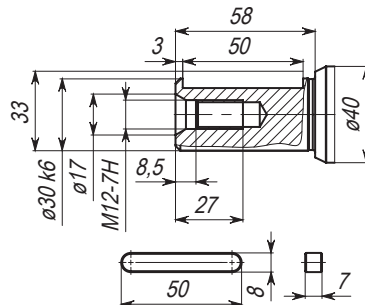
OE | Splined shaft W35x2x30x16x9g
DIN 5480, z16



OF | Splined shaft W30x2x30x14x9g
DIN 5480, z14

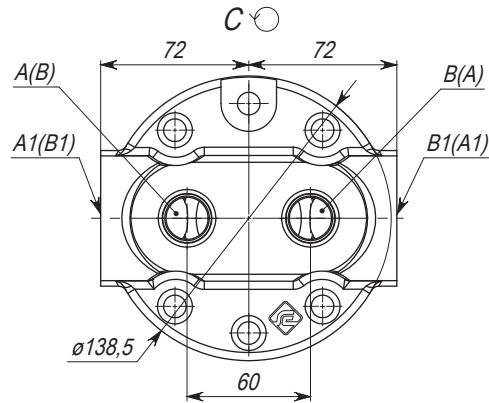
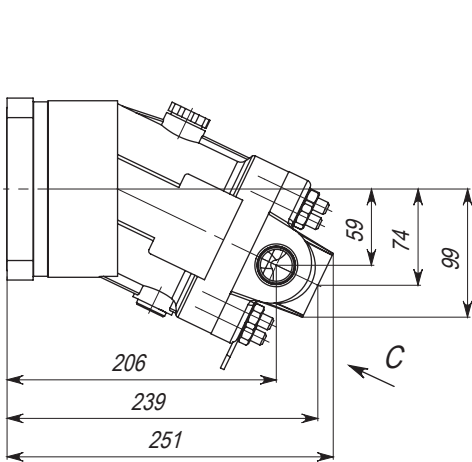


01 | Keyed shaft 8x7x50
GOST 23360



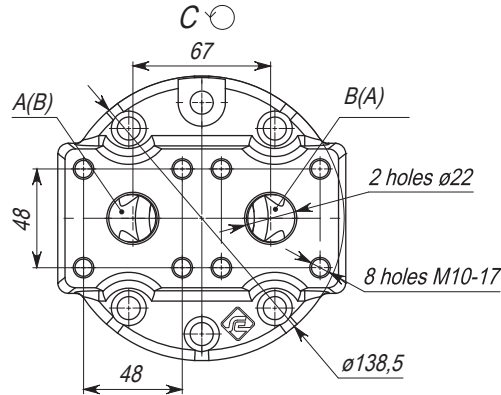
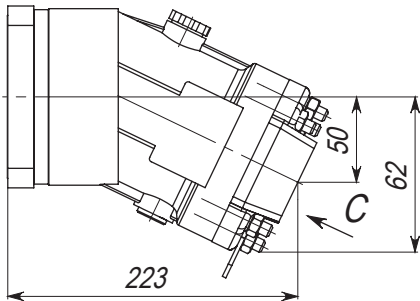
WORKING PORTS OPTION

3 four threaded ports, two on the sides, two on the rear



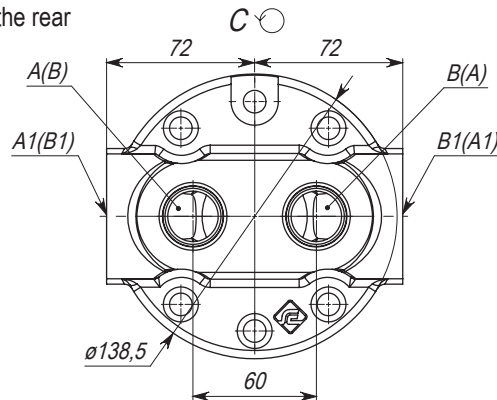
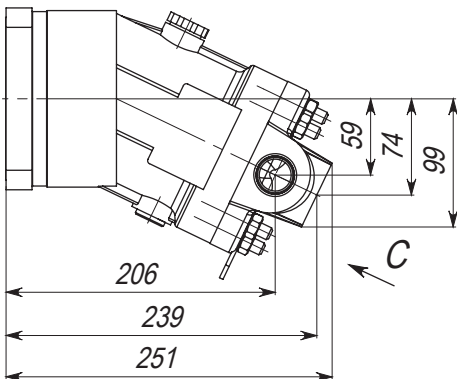
A; B; A1; B1 - working lines
M27x2-24 GOST 25065

6 two flanged ports on the rear



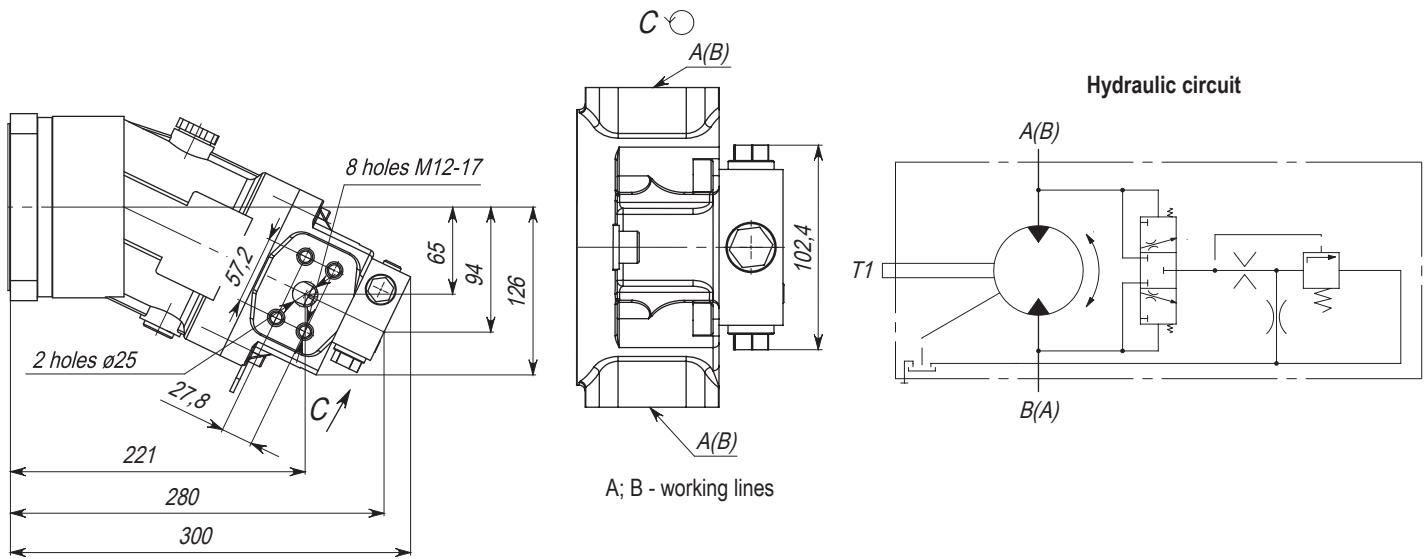
A; B - working lines

D four threaded ports, two on the sides, two on the rear

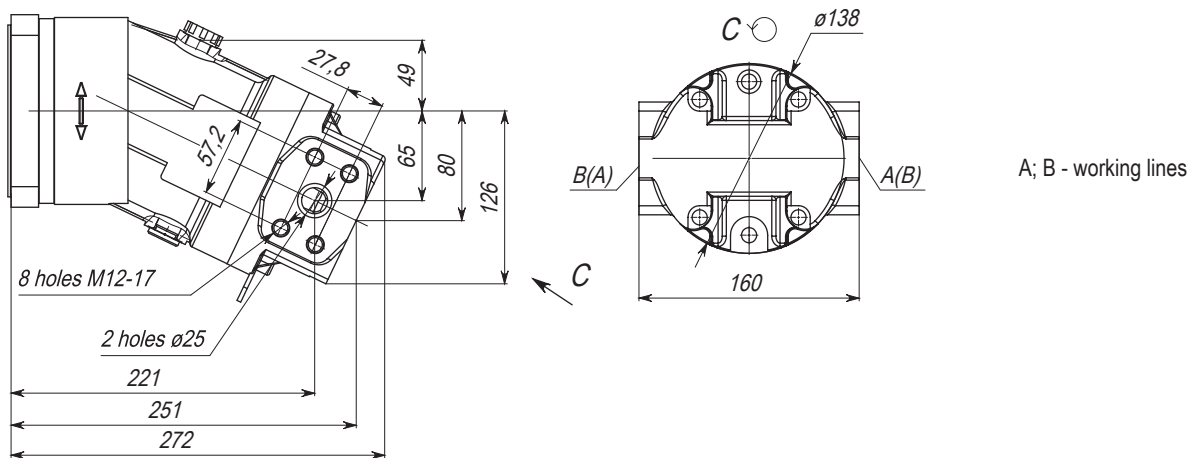


A; B; A1; B1 - working lines
M33x2-24 GOST 25065

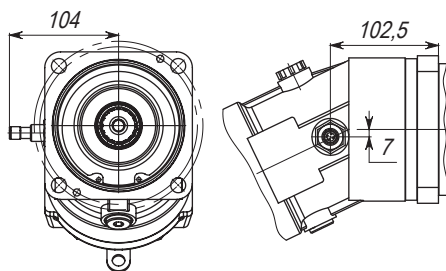
E | two flanged ports on the sides (only with flushing valve)

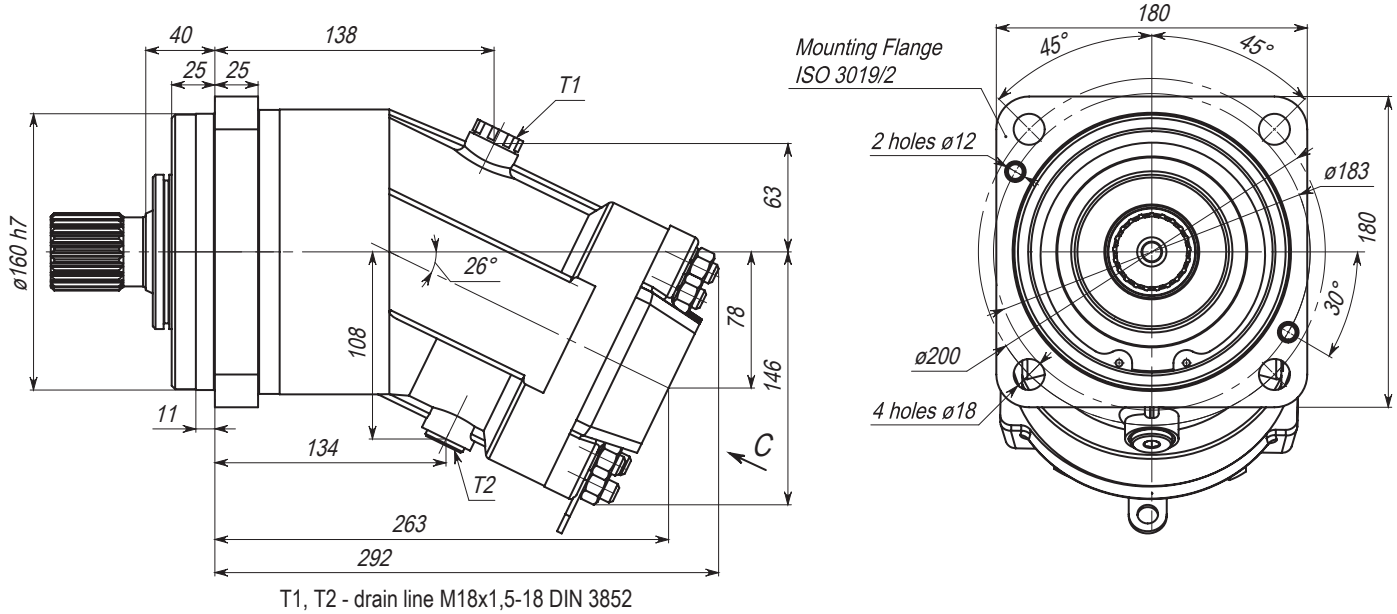


F | two flanged ports on the sides



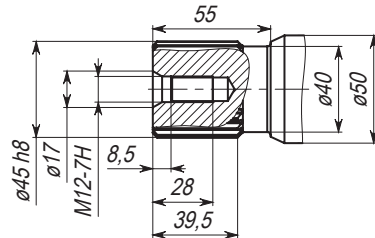
SPEED SENSOR LOCATION



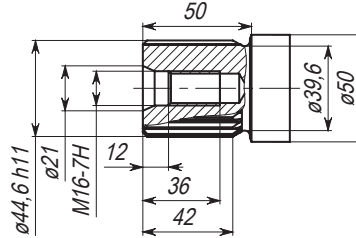
MBF10 MOTORS DIMENSIONS, SIZE 112 CM³

DRIVE SHAFTS

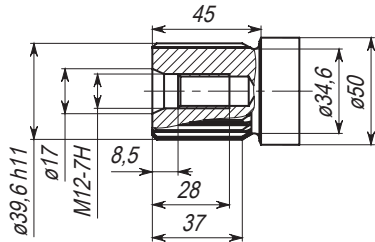
00 | Splined shaft 45xh8x2x9g
GOST 6033-80, z21



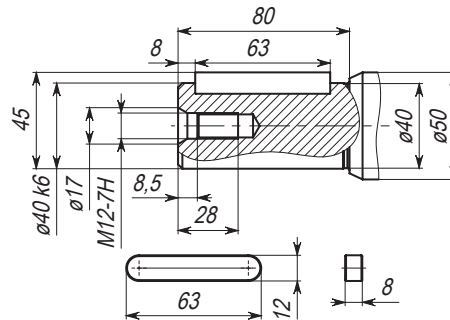
OE | Splined shaft W45x2x30x21x9g
DIN 5480, z21



OF | Splined shaft W40x2x30x18x9g
DIN 5480, z18

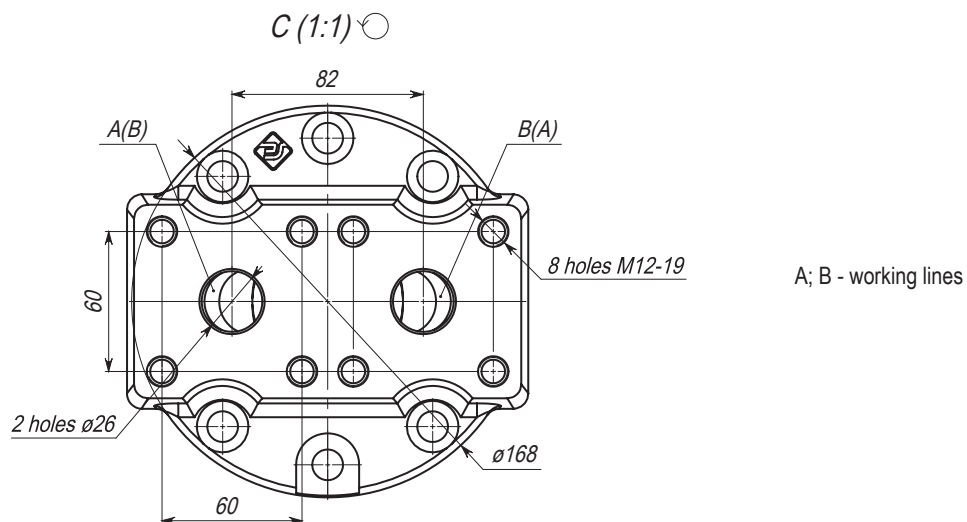


01 | Keyed shaft 12x8x63
GOST 23360



WORKING PORTS OPTION

6 | two flanged ports on the rear


SPEED SENSOR LOCATION
