

Part number:

HYDROMA

HYDRAULICKÉ SYSTÉMY

HIDROMA
SISTEMS

UKŁADY HYDRAULICZNE

HYDROMA

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

Features

- High volumetric efficiency
- Self-priming and venting
- Low noise level
- Up to 12 outlets
- With spline shaft and radial pressure outlets or hollow shaft with axial pressure outlets for direct installation of motor without bell housing and coupling

Multi-outlet radial piston pump

up to 1000 bar

Type MRK

up to 5,43 cm³/rev per circuit

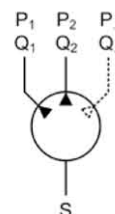


Applications

For all applications with multiple hydraulic circuits which require differing displacement and/or pressure.
(e. g. synchronous lifting systems)

Construction

The valve controlled multi outlet pump is modular designed and can be fitted with up to 12 piston elements.



Technical data

Hydraulic fluid	mineral oil according to DIN 51524 (other fluids on request)
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Fluid temperature range	NBR: -30 to 80 °C FPM: -20 to 80 °C
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Ambient temperature range	-30 to 50 °C
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Viscosity range	5 to 220 mm ² /s (optimal: 15 – 35)
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Suction pressure	-0,05 to 0,5 bar relative
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Filtration	according to NAS 1638 class 8 or ISO/DIN 4406 16/14/12
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Material	pressure flange	
	MRK 11/12	steel
	MRK 03/14/15	aluminium
	driving shaft	steel
	cover	cast aluminium

Weight	on request
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Installation position	any
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Radial force / Axial force onto driving shaft	not allowed
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Speed max.	2000 rpm
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Direction of rotation	any
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Suction height	max. 500 mm
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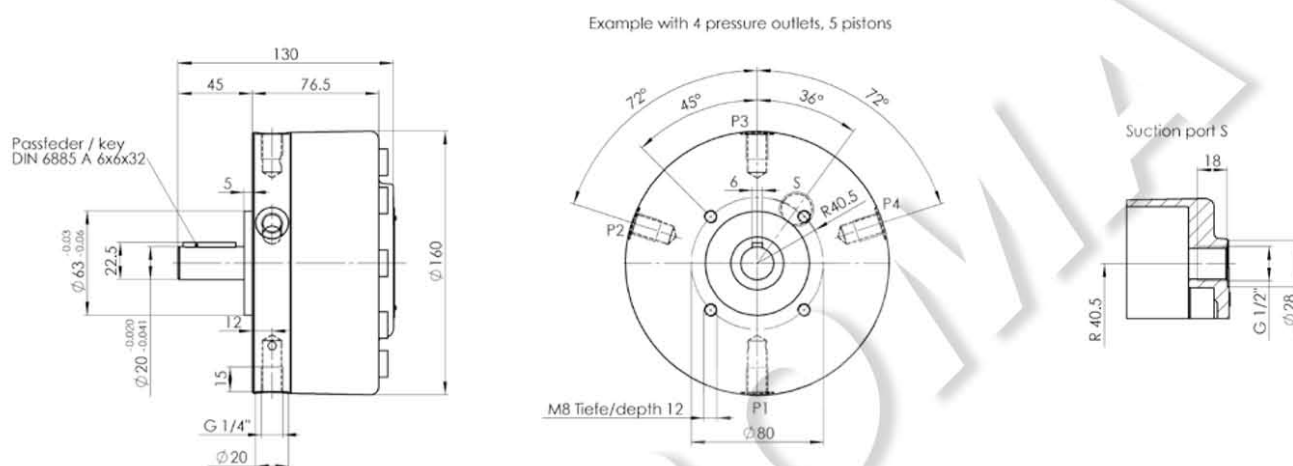
P = Driving power [kW]
 p = Operating pressure [bar]
 V_g = Displacement [cm^3/rev]
 n = Speed [rpm]
 η_t = Overall efficiency approx. 0.9

k = Pulsation factor

- with 3 pistons: k approx. 1,05
- with 4 pistons: k approx. 1,1
- with 5 pistons: k approx. 1,0
- with 6 pistons: k approx. 1,05
- from 7 pistons: k approx. 1,0

$$P = \frac{\sum(p \cdot V_g) \cdot n \cdot k}{\eta_t \cdot 600 \cdot 10^3}$$

Design revision A



Multi outlet radial piston pumps MRK size 11 (dimension drawing 1) up to 700 bar

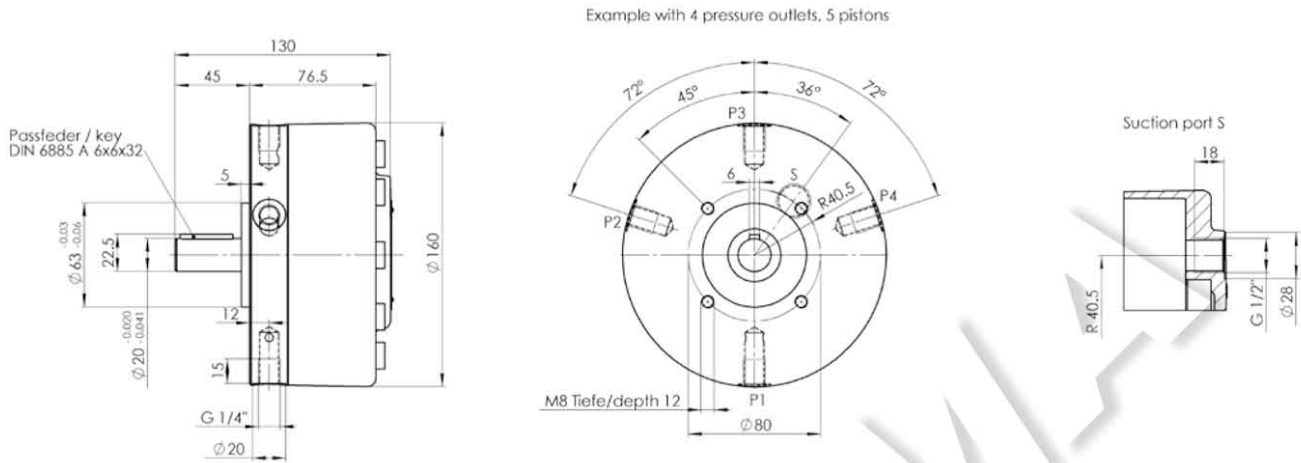
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Multi-outlet radial piston pump**Type MRK**

up to 1000 bar

up to 5,43 cm³/rev per circuit**Dimension drawing 1 size 11 up to 1000 bar**

Design revision A

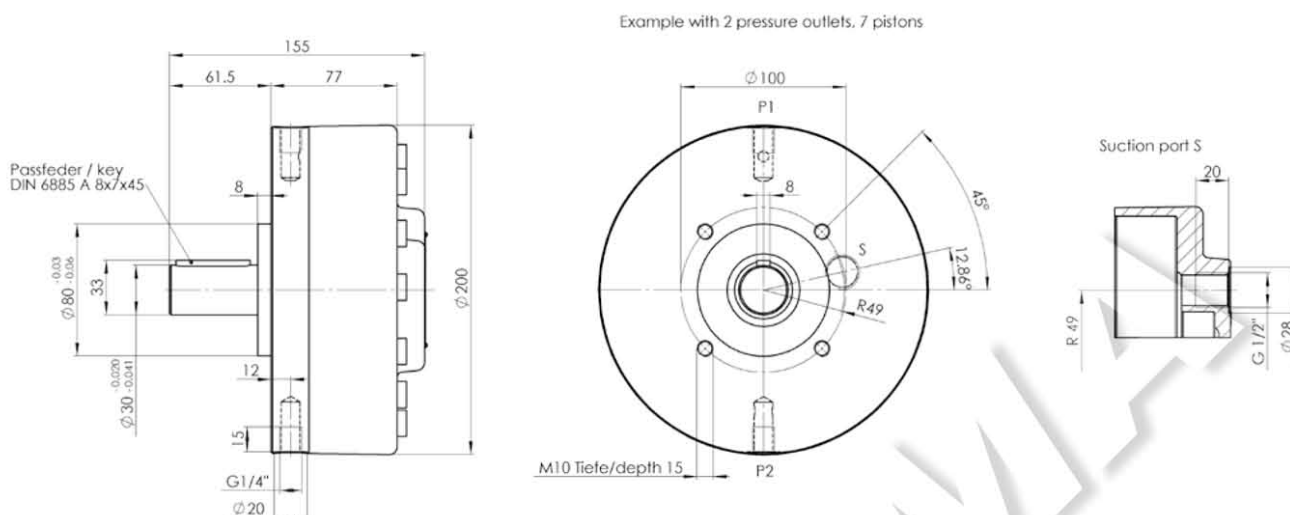
**Multi outlet radial piston pumps MRK size 11 (dimension drawing 1) up to 1000 bar**

CIRCUITS											Size	Article no. [NBR]
Number of circuits	Number of pistons	Pressure [bar]	V _{g1} [cm ³ /rev]	V _{g2} [cm ³ /rev]	V _{g3} [cm ³ /rev]	V _{g4} [cm ³ /rev]	V _{g5} [cm ³ /rev]	V _{g6} [cm ³ /rev]	V _{g7} [cm ³ /rev]	V _{g8} [cm ³ /rev]		
2	4	1000	0.45	0.45							11	59022
2	4	1000	0.63	0.63							11	69767
2	4	1000	0.80	0.80							11	59054
2	4	1000	1.02	1.02							11	56157
4	4	1000	0.23	0.23	0.23	0.23					11	59340
4	4	1000	0.40	0.40	0.40	0.40					11	59398

Multi-outlet radial piston pump	Type MRK
up to 1000 bar	up to 5,43 cm ³ /rev per circuit

Dimension drawing 2 size 12 up to 1000 bar

Design revision A



Multi outlet radial piston pumps MRK size 12 (dimension drawing 2) up to 1000 bar

CIRCUITS												Size	Article no.
Number of circuits	Number of pistons	Pressure [bar]	Vg 1 [cm ³ /rev]	Vg 2 [cm ³ /rev]	Vg 3 [cm ³ /rev]	Vg 4 [cm ³ /rev]	Vg 5 [cm ³ /rev]	Vg 6 [cm ³ /rev]	Vg 7 [cm ³ /rev]	Vg 8 [cm ³ /rev]	Vg 9 [cm ³ /rev]		
2	8	1000	2.04	2.04								12	58921
2	6	700	2.71	2.71								12	58917
2	8	650	3.07	3.07								12	57024
2	8	550	3.62	3.62								12	66219
2	12	350	5.43	5.43								12	66892
4	8	700	1.41	1.41	1.41	1.41						12	58753
7	7	1000	0.51	0.51	0.51	0.51	0.51	0.51	0.51			12	58980
9	9	700	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	12	69079

The multi outlet radial piston pump MRK can also be delivered with different performance data per circuit.

Examples of pumps with different performance data already existing:

Number of circuits	Vg 1 [cm ³ /rev]	Pressure 1. Circuit [bar]	Vg 2 [cm ³ /rev]	Pressure 2. Circuit [bar]	Vg 3 [cm ³ /rev]	Pressure 3. Circuit [bar]	Vg 4 [cm ³ /rev]	Pressure 4. Circuit [bar]	Size
2	0.45	1000	2.54	1000					12
2	1.53	1000	3.62	650					12
2	1.81	650	4.52	650					12
2	1.88	900	2.51	900					12
2	3.62	650	2.71	650					12
2	5.43	450	3.77	450					12
2	6.33	500	3.07	250					12
4	1.26	700	0.63	700	0.63	700	0.63	700	11

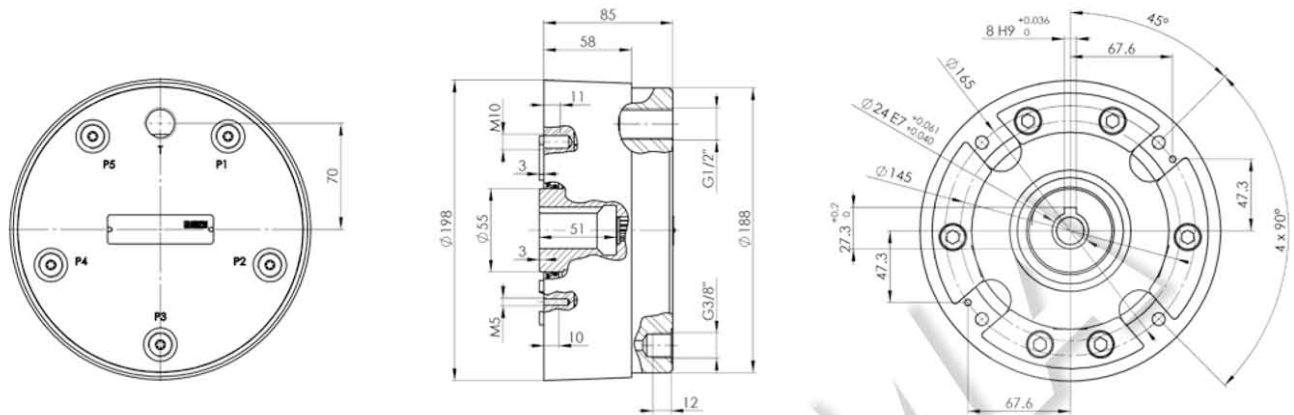
Please contact us for other executions.

Multi-outlet radial piston pump**Type MRK**

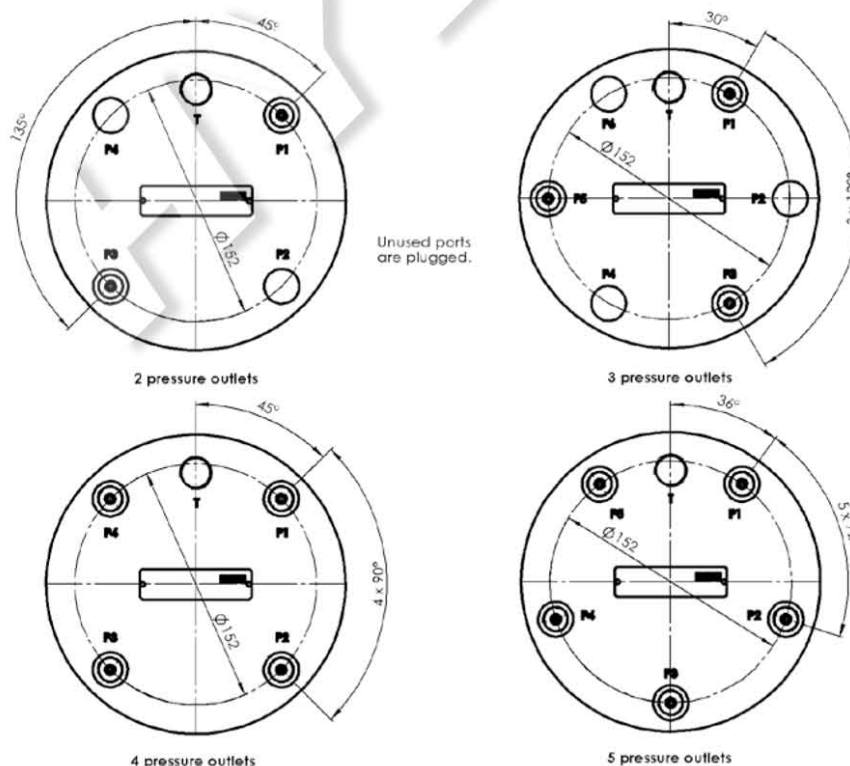
up to 1000 bar

up to 5,43 cm³/rev per circuit**Dimension drawing 3 sizes 03 up to 700 bar**

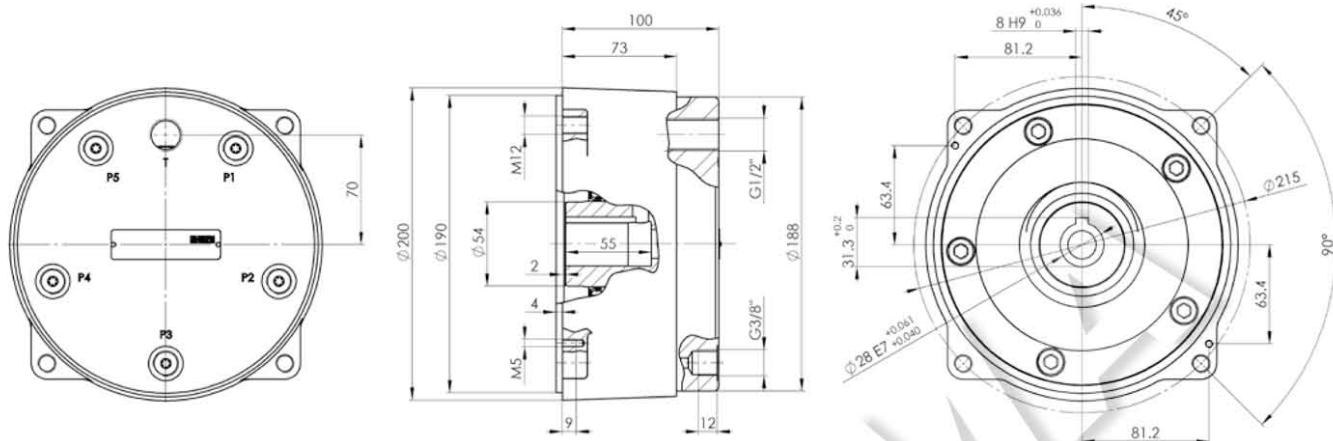
Design revision A with hollow shaft

**Multi outlet radial piston pumps MRK sizes 03 (dimension drawing 3) up to 700 bar**

CIRCUITS											Motor installation dimensions DIN 42677	Size	Article no. [NBR]
Number of circuits	Number of pistons	Pressure [bar]	V _g 1 [cm ³ /rev]	V _g 2 [cm ³ /rev]	V _g 3 [cm ³ /rev]	V _g 4 [cm ³ /rev]	V _g 5 [cm ³ /rev]	V _g 6 [cm ³ /rev]	Speed [rpm]				
2	2	700	0.16	0.16					2000	90	03	69081	
3	3	700	0.16	0.16	0.16				2000	90	03	69086	
3	3	700	0.23	0.23	0.23				2000	90	03	69828	
4	4	700	0.16	0.16	0.16	0.16			2000	90	03	69080	
5	5	700	0.16	0.16	0.16	0.16	0.16		2000	90	03	69066	

Location of the pressure ports

Design revision A with hollow shaft

[illegible]

2	2	700	0.40	0.40					2000	100	14	69082
2	2	700	0.51	0.51					2000	100	14	69735
3	3	700	0.40	0.40	0.40				2000	100	14	68203
4	4	700	0.23	0.23	0.23	0.23			2000	100	14	68669
4	4	700	0.40	0.40	0.40	0.40			2000	112	14	69022
4	4	700	0.51	0.51	0.51	0.51			2000	112	14	68212
5	5	700	0.23	0.23	0.23	0.23	0.23		2000	100	14	69069
6	6	700	0.16	0.16	0.16	0.16	0.16	0.16	2000	100	14	69083

Unused ports are plugged.

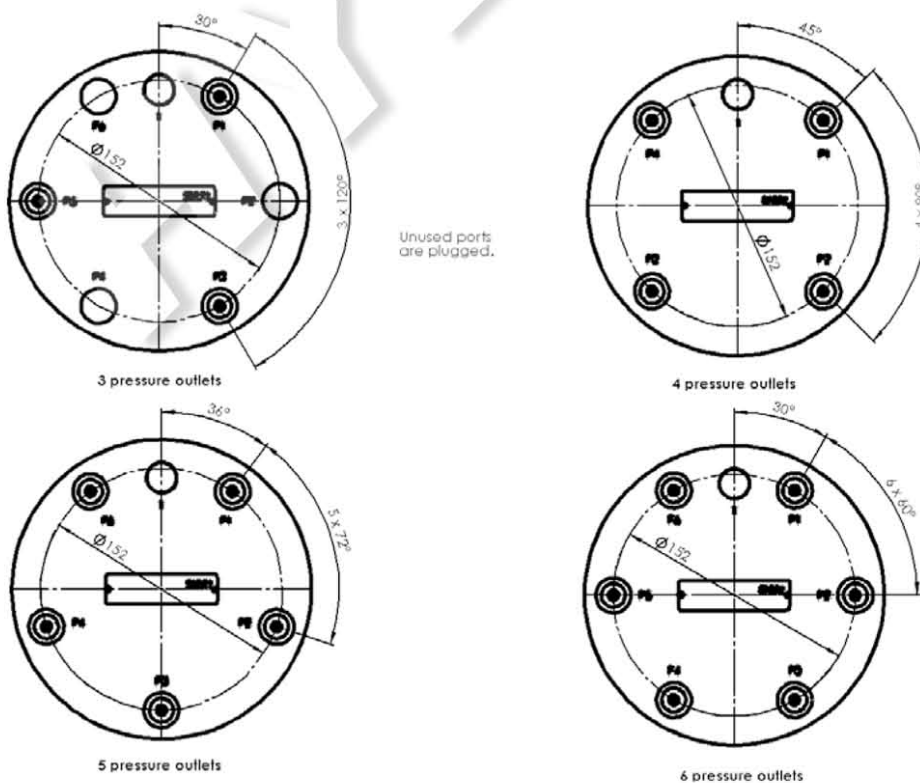
up to 5,43 cm³/rev per circuit

Design revision A with hollow shaft



Number of circuits	Number of pistons	Pressure [bar]	Vg 1 [cm³/rev]	Vg 2 [cm³/rev]	Vg 3 [cm³/rev]	Vg 4 [cm³/rev]	Vg 5 [cm³/rev]	Vg 6 [cm³/rev]	Speed [rpm]	Motor installation dimensions DIN 42677	Size [NBR]	Article no.
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Location of the pressure ports



Multi-outlet radial piston pump	Type MRK
up to 1000 bar	up to 5,43 cm ³ /rev per circuit

Ordering code: Example

MRK	01	-	2	x	0,45	-	1000	-	P	-			00
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Multi-outlet radial piston pump

Size

Number of circuits

Displacement [cm³/rev] per circuit

Operating pressure [bar] per circuit

Seals

P (NBR)

V (FPM)

Special design01 ... 99
(00 for standard)**Part index**Please leave it blank
(small letters a-z;
different letters do
not effect
interchangeability)**Design revision**see dimension drawings
(capital letters A-Z; identical
letters equal same connecting
dimensions)