

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 radial pressure outlets for direct installation of motor without bell housing and coupling

Multi-outlet radial piston pump

Type MRK

up to 1000 bar

up to 5,43 cm³/rev per circuit

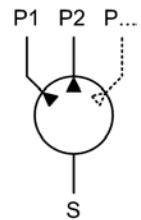


Applications

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)
Fluid temperature range	NBR: -30 to 80 °C FPM: -20 to 80 °C
Ambient temperature range	-30 to 50 °C
Viscosity range	5 to 220 mm ² /s (optimal: 15 - 35)
Suction pressure	-0,2 to 0,5 bar relative
Filtration	according to NAS 1638 class 8 or ISO/DIN 4406 16/14
Material	pressure flange MRK 01/11/02/12 steel MRK 03/14/15 aluminium diving shaft steel cover cast aluminium
Weight	see table
Installation position	any
Radial force / Axial force onto driving shaft	not allowed
Speed max.	2000 min ⁻¹
Direction of rotation	any
Suction height	max. 500 mm

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

Calculation of driving motor power

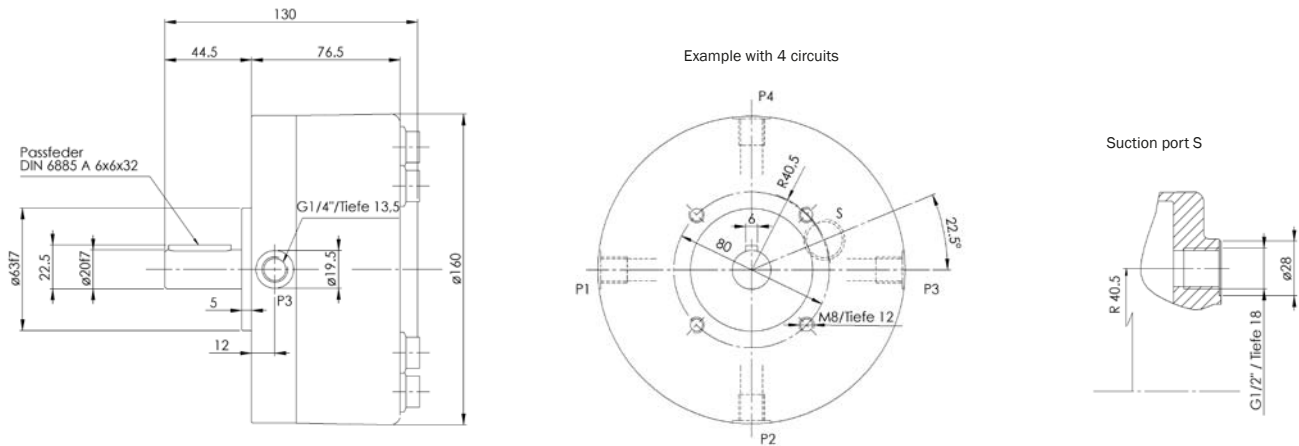
$$P = \frac{\sum(p \cdot V_g) \cdot n \cdot k}{\eta_t \cdot 600 \cdot 10^3}$$

P = Driving power [kW]
p = Operating pressure [bar]
V_g = Displacement [cm³/rev]
n = Speed [rpm]
η_t = Overall efficiency approx. 0,9

k = Pulsation factor
 - with 3 pistons: k approx. 1,1
 - with 5 pistons: k approx. 1,0
 - with 7 pistons: k approx. 1,0

Dimension drawing 1 sizes 01 and 11 up to 700 bar

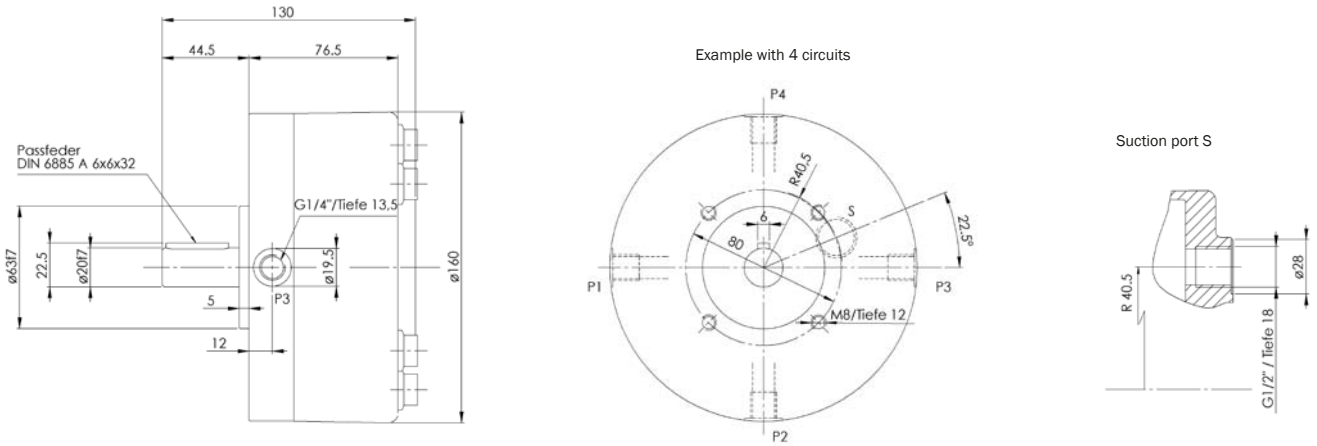
Design revision A

**Multi outlet radial piston pumps MRK sizes 01 and 11 (dimension drawing 1) up to 700 bar****CIRCUITS**

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]	V _g 7 [cm ³ /rev]	V _g 8 [cm ³ /rev]	Size	Article no. [NBR]
2	4	700	0.80	0.80							11	59054
2	4	700	1.02	1.02							11	56157
2	4	700	1.23	1.23							11	59029
2	6	700	1.88	1.88							11	59045
3	3	700	0.40	0.40	0.40						11	66190
3	6	700	0.80	0.80	0.80						11	59784
3	3	550	0.90	0.90	0.90						11	59387
3	6	700	1.14	1.14	1.14						11	59050
3	6	700	1.26	1.26	1.26						11	59599
4	8	700	0.30	0.30	0.30	0.30					11	59004
4	4	700	0.63	0.63	0.63	0.63					11	59013
4	8	700	0.80	0.80	0.80	0.80					11	59525
4	4	700	0.90	0.90	0.90	0.90					11	58459
4	8	550	1.02	1.02	1.02	1.02					11	68921
4	8	450	1.26	1.26	1.26	1.26					11	67951
4	8	300	1.80	1.80	1.80	1.80					11	58652
5	5	450	0.51	0.51	0.51	0.51	0.51				01	56156
5	5	700	0.51	0.51	0.51	0.51	0.51				11	68373
5	5	250	0.91	0.91	0.91	0.91	0.91				01	59862
6	6	700	0.23	0.23	0.23	0.23	0.23	0.23			01	59447
6	6	700	0.51	0.51	0.51	0.51	0.51	0.51			11	58609
6	6	250	0.91	0.91	0.91	0.91	0.91	0.91			11	56746
7	7	700	0.16	0.16	0.16	0.16	0.16	0.16	0.16		01	68232
7	7	700	0.23	0.23	0.23	0.23	0.23	0.23	0.23		01	59016
8	8	450	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	11	59019

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

Dimension drawing 1 sizes 01 and 11 up to 1000 bar
Design revision A



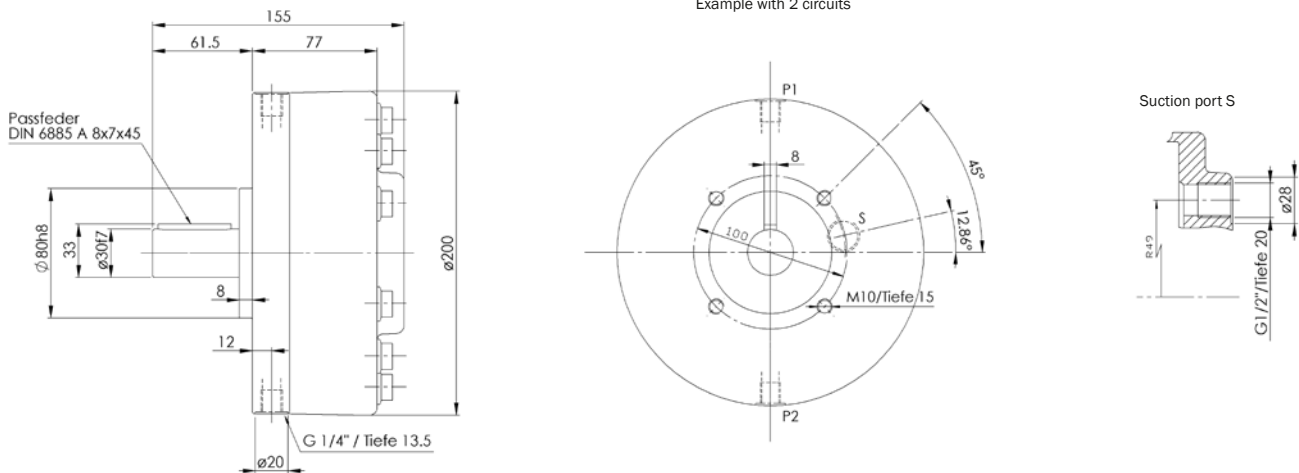
Multi outlet radial piston pumps MRK sizes 01 and 11 (dimension drawing 1) up to 1000 bar

CIRCUITS												
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]	Size	Article no. [NBR]
2	4	1000	0.45	0.45							11	59022
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 sizes 02 and 12 up to 1000 bar

Design revision A

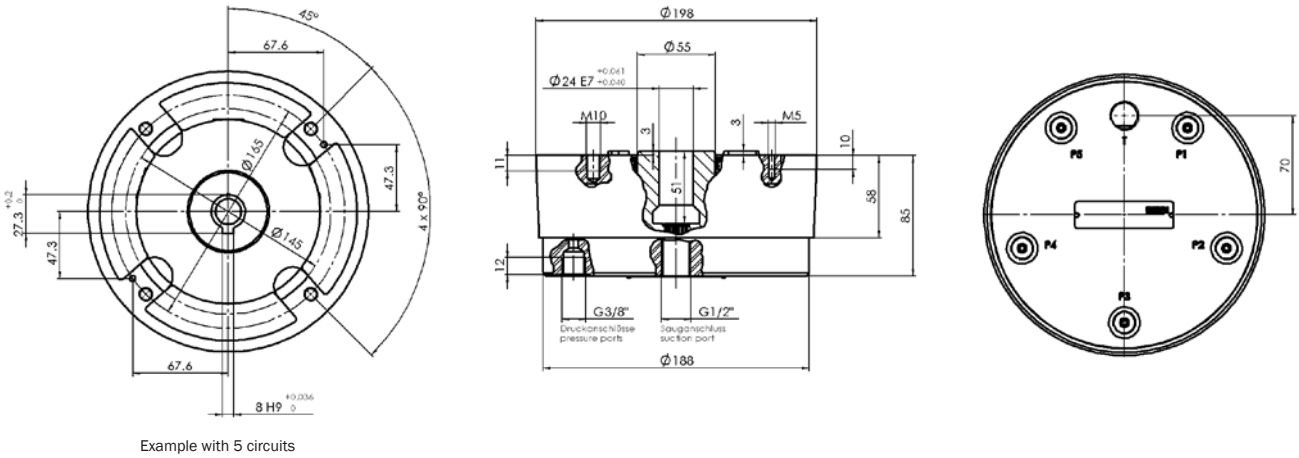


Multi outlet radial piston pumps MRK sizes 02 and 12 (dimension drawing 2) up to 1000 bar

CIRCUITS													Size	Article no.
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]	V _{g9} [cm ³ /rev]	[NBR]		
2	8	1000	2.04	2.04									12	58921
2	6	850	2.72	2.72									12	58917
2	8	700	3.06	3.06									12	57024
2	12	1000	3.05	3.05									12	59471
2	8	700	3.62	3.62									12	66219
2	12	550	5.43	5.43									12	66892
3	6	850	1.80	1.80	1.80								12	59091
4	8	700	1.41	1.41	1.41	1.41							12	58753
7	7	800	0.51	0.51	0.51	0.51	0.51	0.51	0.51				02	58980
9	9	700	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	12	69079

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

Dimension drawing 3 sizes 03 up to 700 bar
Design revision A



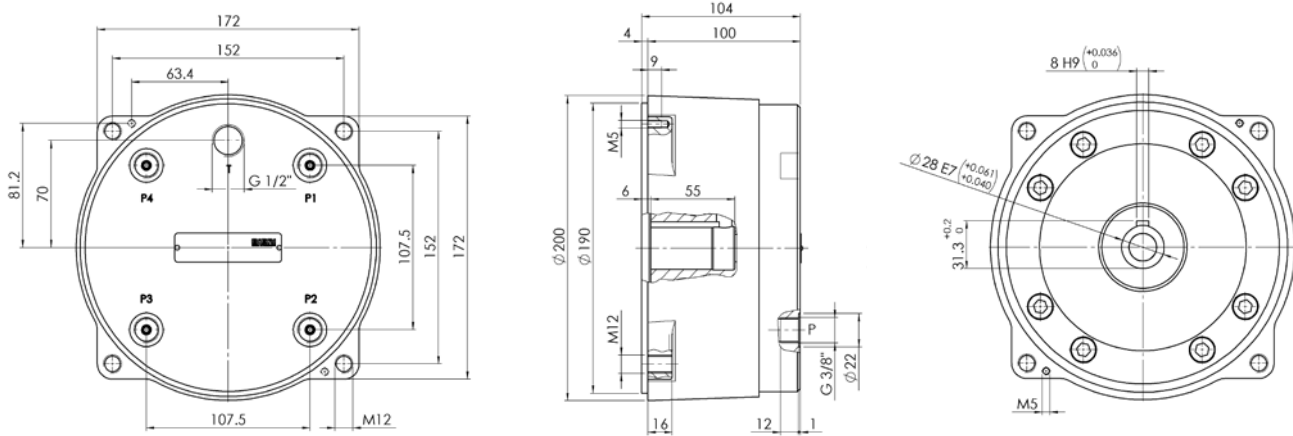
Multi outlet radial piston pumps MRK sizes 03 (dimension drawing 3) up to 700 bar

CIRCUITS												
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]	Speed [rpm]	Engine	Size	Article no. [NBR]
2	2	700	0.16	0.16					2000	90	03	69081
3	3	700	0.16	0.16	0.16				2000	90	03	69086
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

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

Dimension drawing 4 sizes 14 up to 700 bar

Design revision A with hollow shaft



Example with 4 circuits

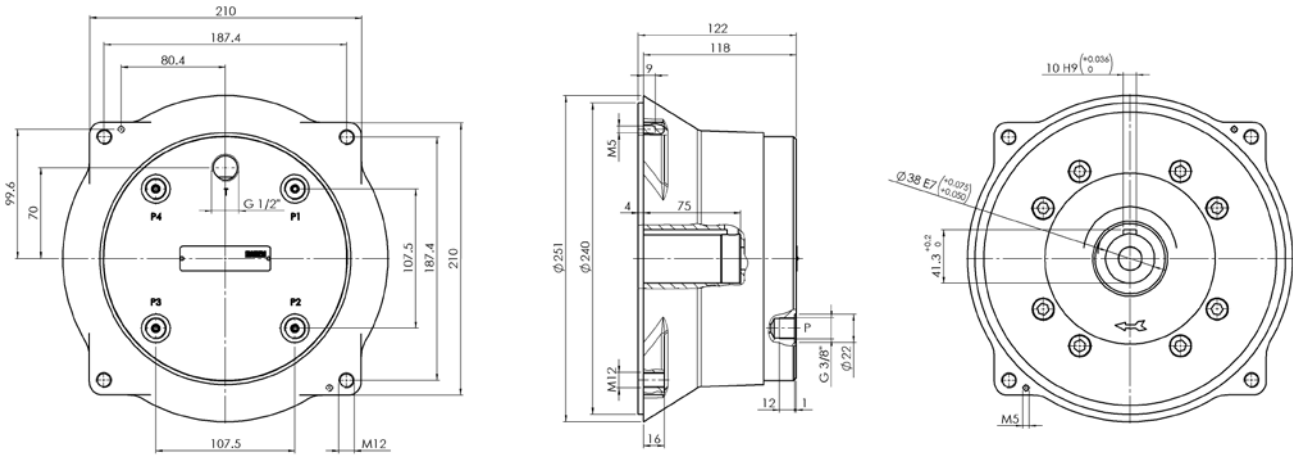
Multi outlet radial piston pumps MRK sizes 14 (dimension drawing 4) up to 700 bar

Number of circuits	Number of pistons	Pressure [bar]	CIRCUITS						Speed [rpm]	Engine	Size	Article no. [NBR]
			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]				
2	2	700	0.40	0.40					2000	100	14	69082
3	4	700	0.23	0.23	0.23				3600	100	14	67202
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

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

Dimension drawing 5 sizes 15 up to 700 bar

Design revision A with hollow shaft



Example with 4 circuits

Multi outlet radial piston pumps MRK sizes 15 (dimension drawing 5) up to 700 bar

CIRCUITS											
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]	Speed [rpm]	Engine Size	Article no. [NBR]
3	3	640	0.90	0.90	0.90				2000	132 15	69085
4	4	650	0.63	0.63	0.63	0.63			2000	132 15	68195
5	5	700	0.51	0.51	0.51	0.51	0.51		2000	132 15	69071
6	6	700	0.40	0.40	0.40	0.40	0.40	0.40	2000	132 15	69084

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	700	2.53	700					02
2	1.52	450	3.64	450					02
2	1.80	450	4.52	450					02
2	1.88	700	2.51	700					12
2	3.61	700	2.71	350					12
2	5.43	700	3.77	700					12
2	6.33	700	3.06	250					12
4	1.25	700	0.63	700	0.63	700	0.63	700	11

Please contact us directly for other executions.

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

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 (AS)**see dimension drawings
(capital letters A-Z; identical
letters equal same connecting
dimensions)

As we are constantly improving our products,
we keep us the right to change the technical
specifications without prior notice.

MRK-EN-0908

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