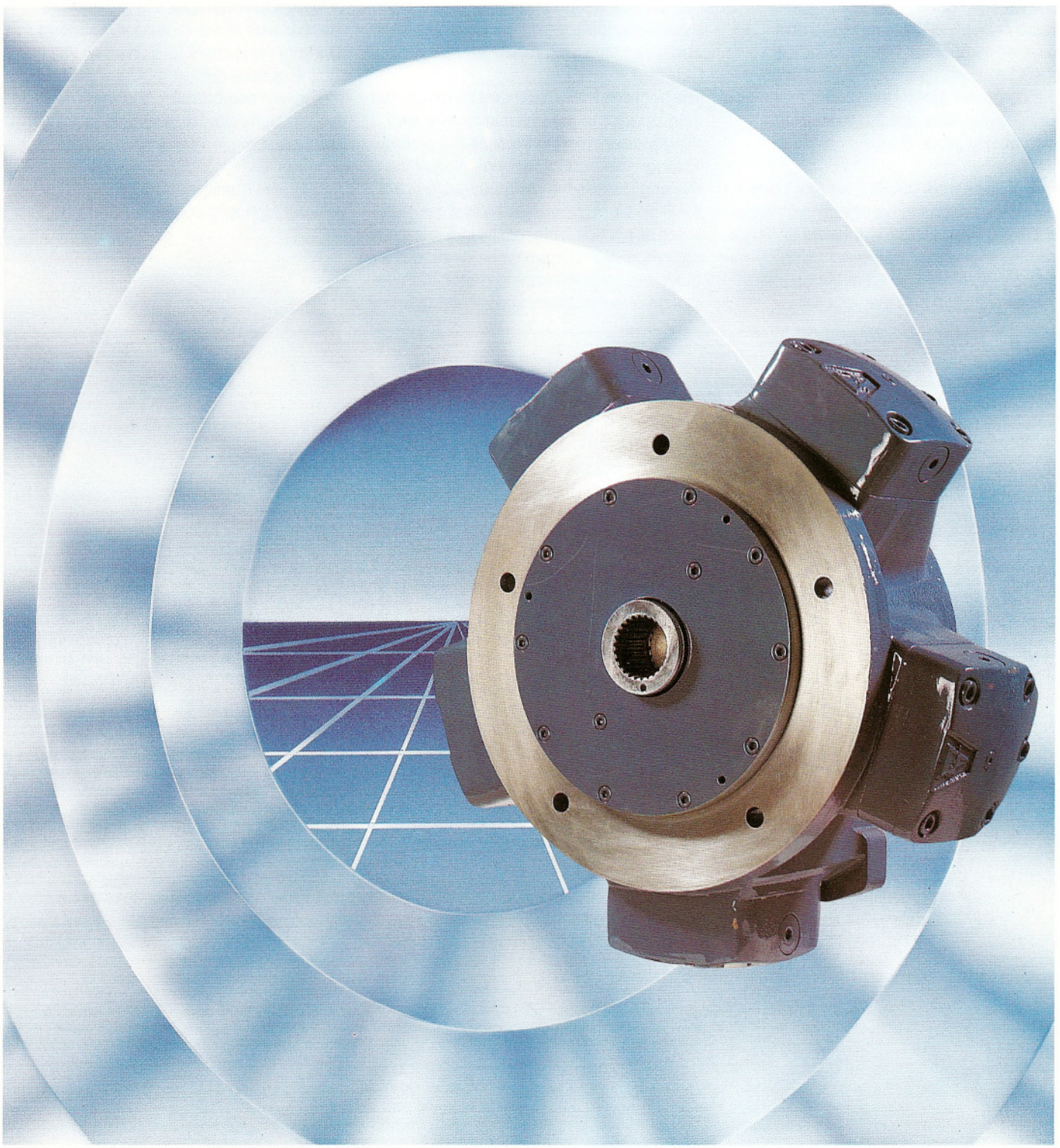
PLEIGER HYDRAULICS

Radial Piston Motors MO-05

constant · step variable · infinitely variable



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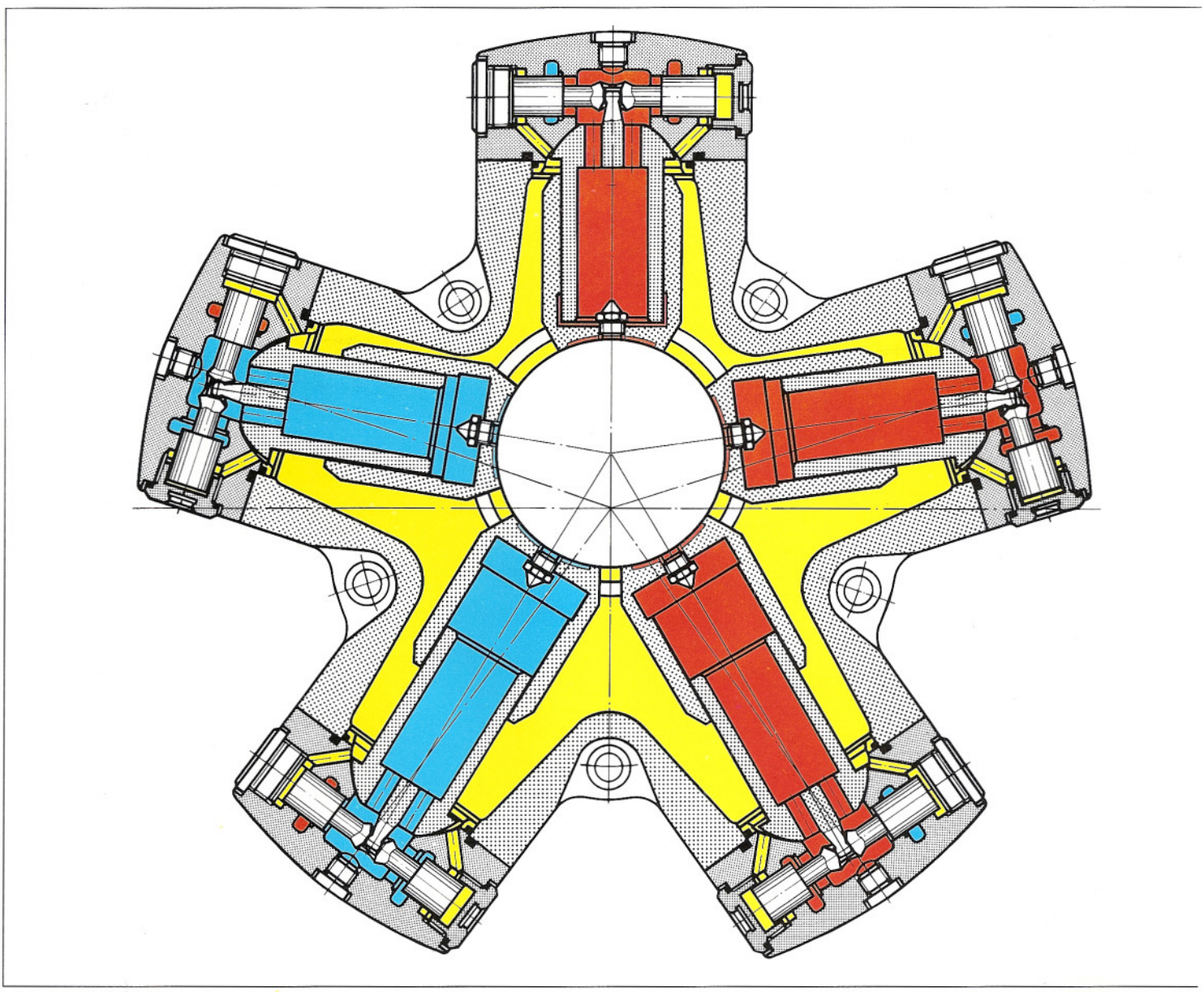
Hydraulic Motors MO-05

The MO-05 series is the result and of years of application experience and development of our high torque, low speed motors. This know-how along with our computer aided design and manufacturing capabilities are the basis of this high quality product.

Five pistons work directly, without transversal forces, on the hardened cylindrical eccentric shaft. Insignificant wear and high mechanical efficiency are achieved by hydrostatically balanced outer pistons (piston slippers) and the spherical bearings of the inner pistons. Amply sized roller bearings support the eccentric shaft and guarantee long motor life.

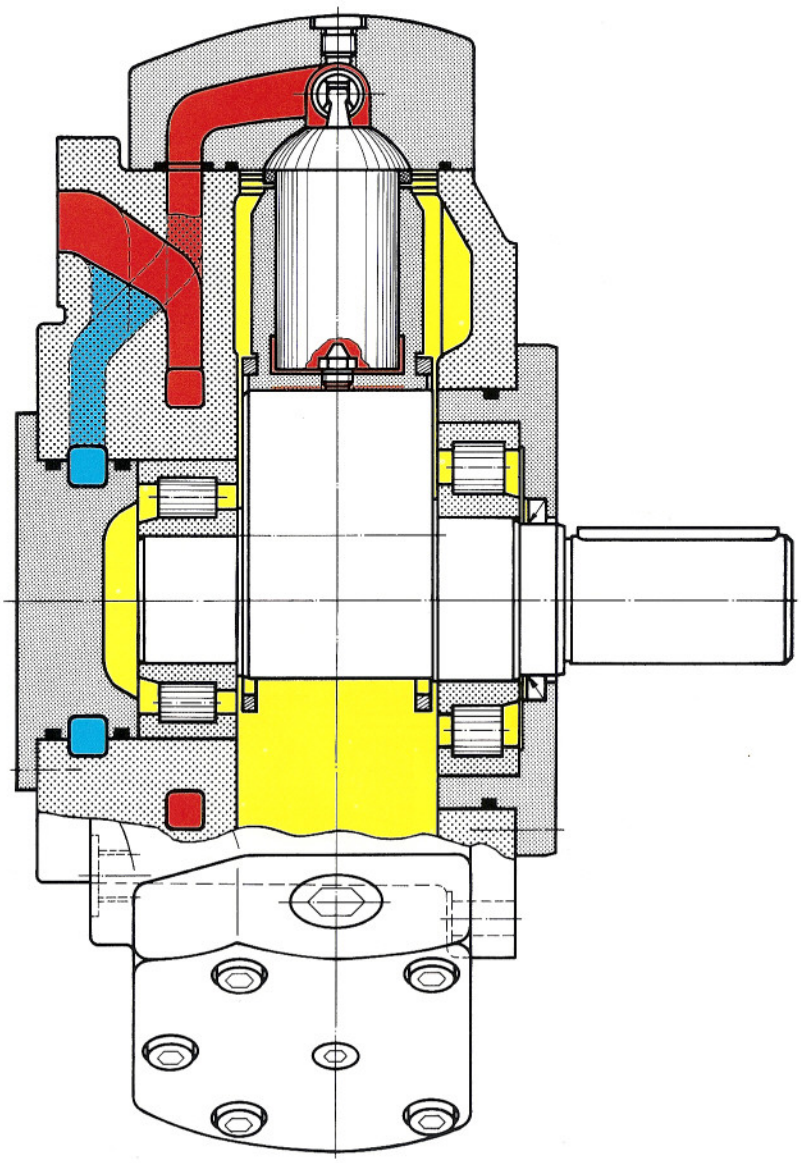
The hydrostatically balanced piston control incorporated in the cylinder covers are directly connected to the working pistons. Through the pendulum oscillation of the working pistons the piston controls open the P and T oil passages so that the motor is self controlled. This results in a low static volume, a high dynamic response and a quiet and smooth running motor. With the design of the piston controls in the cylinder covers additional space is provided on the rear side of the motor for mounting auxiliary equipment (e. g. brakes, valves, etc.). A special design model of the MO-05 motor with sealed roller bearings is suitable in particular for operation with inflammable fluids.

An efficient quality control program guarantees high and constant standards.



Advantages of the MO-05 motor series

- no transversal or tilting forces
- excellent dynamic response in combination with servo controls
- low specific surface pressure on the transmission
- low moment of inertia
- quiet and smooth running, even at low speeds
- high volumetric and mechanical efficiency
- high starting torque
- excellent performance with compact dimensions
- long life
- high reliability



Motor Options

- hollow shaft to DIN 5480 and ANSI
- double ended shaft (with MO)
- rear drive for a speed transducer
- choice of pressure connection, SAE 4 bolt 3000 or 6000 PSI
- viton seals for HFD fluids
- sealed roller bearings for HFC fluids
- integral manifold for pressure limit, directional and flow control functions
- bolt-on holding brake
- bolt-on planetary gear
- integral changeover valve (only MOS models)

Performance Table

Type MO/MOS/ MOR/MOB/ MOSB	theor. displacement [1] cm³/rev.	in³/rev.	theor. max. torque at 250 bar Nm	at 3500 PSI Lb ft	max. speed r.p.m.
125 – 05	125	7.62	497	366	600
200 – 05	200	12.20	795	586	570
250 – 05	250	15.24	994	733	550
350 – 05	350	21.34	1391	1026	450
500 – 05	500	30.48	1989	1465	400
710 – 05	710	43.30	2825	2081	350
1000 – 05	1000	61.00	3978	2930	320
1300 – 05	1300	79.26	5172	3810	300
1600 – 05	1600	97.60	6366	4690	270
2000 – 05	2000	122.00	7957	5862	240
2400 – 05	2400	146.30	9549	7034	240
3000 – 05	3000	182.90	11936	8793	220
3750 – 05	3750	228.70	14920	10991	200
4500 – 05 [2]	4500	274.40	12879	9496	180

[1] For motor sizes up to 125 cm³/rev. and from 4500 cm³/rev. to 26000 cm³/rev. please see separate MO brochure.

[2] MO 4500 – 05 max. pressure 180 bars.

* Additional Information

Model-Code

MOS 1000 – 05 / 1000 – 500 / 1 P 3 R M / U12 / E S N1 – *

Motor Type
MO, MOS, MOR
MOB, MOSB

Size
125, 200 ...

Series

Displacement
(for MO only if differing fom standard and for MOS q max. – q min.)

Shaft End
1 single shaft
2 double shaft
T tacho drive shaft

Shaft Design
P straight shaft with key per DIN 6885
Z external involute spline per DIN 5480
N internal involute spline per DIN 5480

Pressure Connections – SAE
3 3000 PSI
6 6000 PSI

Direction of Rotation (with view to the shaft end)
L anti-clockwise
R clockwise
W dual rotation

Operating Fluid
M mineral oil
C HFC-Water Glycol Fluid (Buna N seals)
D HFD-Phosphat Ester Fluid (Viton seals)

Pilot Pressure for MOS + MOR
U12
PX external
PyA internal from A
PyB internal from B

Adjustment MOR
E electrical with prop. solenoid
H manual with hand wheel

Additional Equipment MOR
S stroke transducer
N1 speed indicator with 1 transducer
N2 speed indicator with 2 transducers

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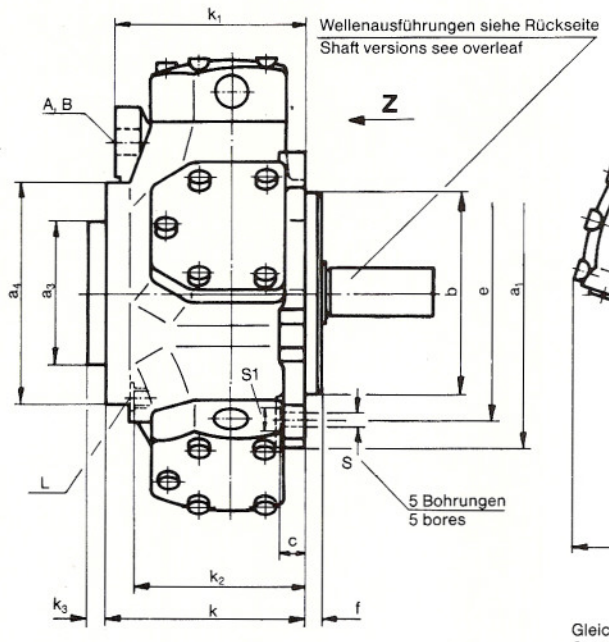
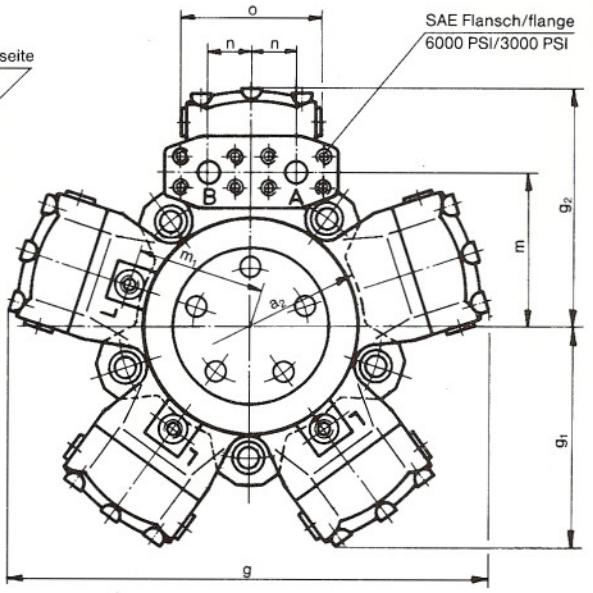
Radialkolbenmotor
Radial piston motor

Maßblatt / Dimension sheet

MO-05

Ausgabe / Edition 10 – 1992





Gleiche Abmessungen für MOS/MOR.
Same dimensions for MOS/MOR.
Ergänzende Maße für MOS/MOR siehe Maßblatt MOS/MOR.
Complementary dimensions for MOS/MOR see dimension sheet MOS/MOR.

Motortyp	a_1	a_2	a_3	a_4	b_{h8}	c	e	f	g	g_1	g_2	k	k_1	k_2	k_3	m	m_1
125 200 250	290	236	138	170	200	18	250	15	355	170	174	193,5	183	171	16	110	88
350 500	290	236	138	180	200	18	250	15	405	190	200	200,5	183	174	16	110	100
710	340	266	160	215	224	25	280	18	474	225	239	206	194	183	16	150	125
1000	370	297	160	220	250	28	315	20	545	255	265	233	209	202	16	150	140
1300	425	353	192	250	315	38	375	20	595	277	291	258	256	226	15	220	170
1600	425	353	192	250	315	38	375	20	608	283	299	269	266	232	15	220	180
2000	475	403	192	250	355	38	425	20	666	307	328	285	282	249	15	220	195
2400	515	403	228	300	355	38	425	20	700	330	350	303	292	258	16	240	210
3000	515	403	228	300	355	38	425	20	750	352	376	321	306	273	16	240	220
3750 4500*	515	403	228	300	355	38	425	20	785	367	390	338	323	294	16	240	220

Motortyp	n	o	s	s_1	L	SAE
125 200 250	43	134	14	22	½″	1″
350 500	43	134	14	22	½″	1″
710	43	141	14	22	½″	1″
1000	50	162	18	28	½″	1¼″
1300	57,5	182	22	35	¾″	1½″
1600	57,5	182	22	35	¾″	1½″
2000	57,5	192	22	35	¾″	1½″
2400	57,5	190	22	35	¾″	1½″
3000	57,5	202	22	35	¾″	1½″
3750 4500*	57,5	210	22	35	¾″	1½″

Anschluß A = Rechtslauf
Anschluß B = Linkslauf
Anschluß L = Lecköl
} Blickrichtung Z

Connection A = clockwise
Connection B = anticlockwise
Connection L = Leakage oil
} view Z

Max. Betriebsdruck 250 bar (bei Anschluß 6000 PSI oder bei Anschluß 3000 PSI bis 1¼″)
Max. Betriebsdruck 210 bar (bei Anschluß 3000 PSI ab 1½″)

Max. working pressure 250 bar (with connection 6000 PSI or with connection 3000 PSI up to 1¼″)
Max. working pressure 210 bar (with connection 3000 PSI from 1½″)

* p max. 180 bar

Vor Inbetriebnahme Betriebsanleitung beachten!
Prior to start up see operation instruction!

Höchstgelegenen Anschluß L drucklos zum Tank!
Highest situated connection L pressureless to the tank!

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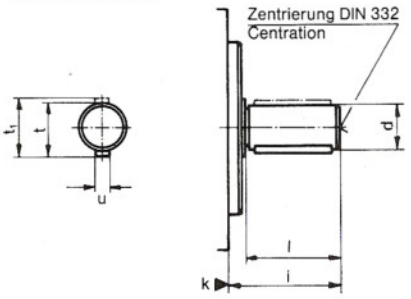
Radialkolbenmotor
Radial piston motor

Wellenausführungen / shaft versions

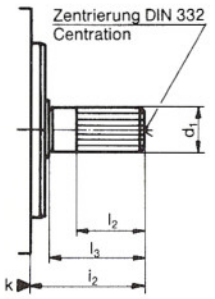
MO-05

Ausgabe / Edition **10 – 1992**

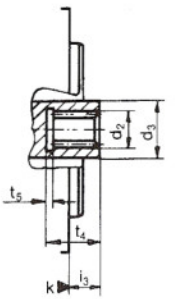
(P) Paßfeder DIN 6885
Keyshaft DIN 6885



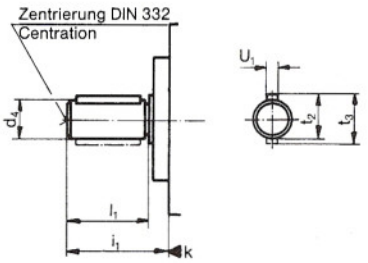
(Z) Zahnwellenprofil DIN 5480
External involute spline DIN 5480



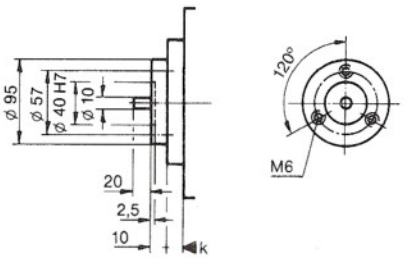
(N) Zahnnabenprofil DIN 5480
Internal involute spline DIN 5480



(2) Zweite Abtriebswelle
Second shaft



(T) Tachowelle
Tacho shaft



Motortyp	d	d_1 Zahnwellenprofil nach DIN 5480 / External involute spline to DIN 5480	d_2 Zahnnabenprofil nach DIN 5480 / Internal involute spline to DIN 5480	d_3	d_4	i	i_1	i_2
125 200 250	45_{k6}	W 45 × 2 × 30 × 21 × 8 f	N 45 × 2 × 30 × 21 × 9 H	60	40_{k6}	128	129	98
350 500	50_{k6}	W 50 × 2 × 30 × 24 × 8 f	N 45 × 2 × 30 × 21 × 9 H	60	40_{k6}	128	129	103
710	55_{m6}	W 55 × 2 × 30 × 26 × 8 f	N 50 × 2 × 30 × 24 × 9 H	80	45_{k6}	131	129	111
1000	70_{m6}	W 70 × 3 × 30 × 22 × 8 f	N 60 × 3 × 30 × 18 × 9 H	80	55_{m6}	163	159	138
1300	80_{m6}	W 80 × 3 × 30 × 25 × 8 f	N 65 × 3 × 30 × 20 × 9 H	90	65_{m6}	193	188	148
1600	80_{m6}	W 80 × 3 × 30 × 25 × 8 f	N 65 × 3 × 30 × 20 × 9 H	90	70_{m6}	193	188	148
2000	85_{m6}	W 85 × 5 × 30 × 15 × 8 f	N 70 × 3 × 30 × 22 × 9 H	95	70_{m6}	193	188	163
2400	85_{m6}	W 85 × 5 × 30 × 15 × 8 f	N 70 × 3 × 30 × 22 × 9 H	100	80_{m6}	193	189	163
3000	100_{m6}	W 100 × 5 × 30 × 18 × 8 f	N 80 × 3 × 30 × 25 × 9 H	105	85_{m6}	233	229	178
3750 4500*	100_{m6}	W 100 × 5 × 30 × 18 × 8 f	N 85 × 5 × 30 × 15 × 9 H	110	85_{m6}	233	229	178

Motortyp	i_3	l	l_1	l_2	l_3	t	t_1	t_2	t_3	t_4	t_5	u	u_1	Gewicht / weight ca. kg
125 200 250	18	110	110	55	80	48,5	–	43	–	40	10	14	12	65
350 500	18	110	110	60	85	53,5	–	43	–	40	10	14	12	75
710	31	110	110	65	90	59	–	48,5	–	50	10	16	14	115
1000	43	140	140	85	115	74,5	–	59	–	65	10	20	16	165
1300	33	170	170	95	125	85	–	69	–	65	10	22	18	235
1600	33	170	170	95	125	85	–	74,5	–	58	10	22	20	260
2000	33	170	170	105	140	–	95	–	79	65	12	22	20	335
2400	33	170	170	105	140	–	95	–	90	65	12	22	22	385
3000	33	210	210	120	155	–	112	–	95	70	15	28	22	450
3750 4500*	33	210	210	120	155	–	112	–	95	70	15	28	22	525

Änderungen vorbehalten
Subject to modification

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