

maier

Rotary Joints

Solutions for safe transfer of fluids



MP series

Multi-passage joint type **MP**



- Design with radial shaft seal with elastic contact. Seal design to be selected according required media and performance.
- Rotor made of stainless steel, at sealing areas hardened or with metal ceramics.
- Housing of brass, aluminium, steel – depending on application data.
- Threaded connections are G/BSP (ISO 228). Other threads such as NPT (ANSI) are available on request.
- Ball bearings lubricated for lifetime.
- Flange of the rotor can be custom-made on request.
- One or two threaded holes in the housing are provided for anti-rotation device.
- For multi-media applications double seals and drain holes are provided to prevent cross contamination of fluids.
- By means of many possible variations of sizes, materials and seals MP series covers a wide scope of applications. MP rotary joints can be combined with a slip ring or another rotary joint or with hollow shaft rotary joints or can be designed with multi-ports at the housing, just to give examples of various possibilities.



MP multi-passage joints are suitable to transfer:

- **Hydraulic oil**
- **Water**
- **Air**
- **Gas**
- **Vacuum**

• *Dimensions on pages 4 and 5*

Combijoint type **MPE**



MP rotary joint with two or four passages and slip ring with gold/gold contacts.

• *Page 6*

Hollow shaft type **MPH**



Simplest version of series MP with one passage and hollow shaft. The radial connection at the housing corresponds to the customer's shaft inlet. The technical characteristics are the same like series MP. Multi-passage versions are available on request.

• *Page 7*

Rotary joint type **MPT**



Two way design with two mechanical seals. Transfer of one fluid in and out, suitable for higher speed by means of mechanical seal. Custom made design on request.

• *Page 8*

Rotary joint type **MPV**



One to four way designs with gap seal bushes – "hydrostatic relief". Gap seals create controlled leakage recirculated to the hydraulic unit. With this technology it is possible to transfer the medium at high speed and high pressure simultaneously.

• *Page 9*



Application data

▶ Series:	<i>MP - MPE - MPH</i>	<i>MPT</i>	<i>MPV</i>
▶ Pressure PN max bar*:	Oil: 200 Gas, air, water: 10	Oil: 10	Oil: 200
▶ Speed max* min-1*:	200	1.000	8.000
▶ Media:	Oil, water, air, gas, vacuum	Water, oil	Oil
▶ Passages:	2...10 (MP) ; 2...4 (MPE); 1 (MPH)	2	1...4
▶ Nominal Diameter DN mm:	06.....25	06.....20	06
▶ Housing material:	Steel, aluminium, brass	Steel, aluminium	Steel, aluminium
▶ Temperature max °C:	80	80	80
▶ Threads:	G/BSP (ISO 228)	G/BSP (ISO 228)	G/BSP (ISO 228)
▶ Custom made:	On request	On request	On request

*Avoid combination of maximum values. Higher values and other media on request.

Ordering instructions

Example:

MP	04	06	A	- XXX
Number of passages From 02 to 10	▶ ▶			
Nominal Diameter DN mm (inch) 06 (G 1/4"), 10 (G 3/8"), 15 (G 1/2"), 20 (G 3/4"), 25 (G 1")	▶ ▶			
A Rotor in stainless steel, housing in brass B Rotor in stainless steel, housing in aluminium C Rotor and housing in stainless steel	▶ ▶			
Consecutive number for special designs, numbering by factory	▶ ▶			



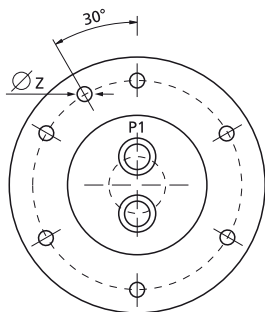
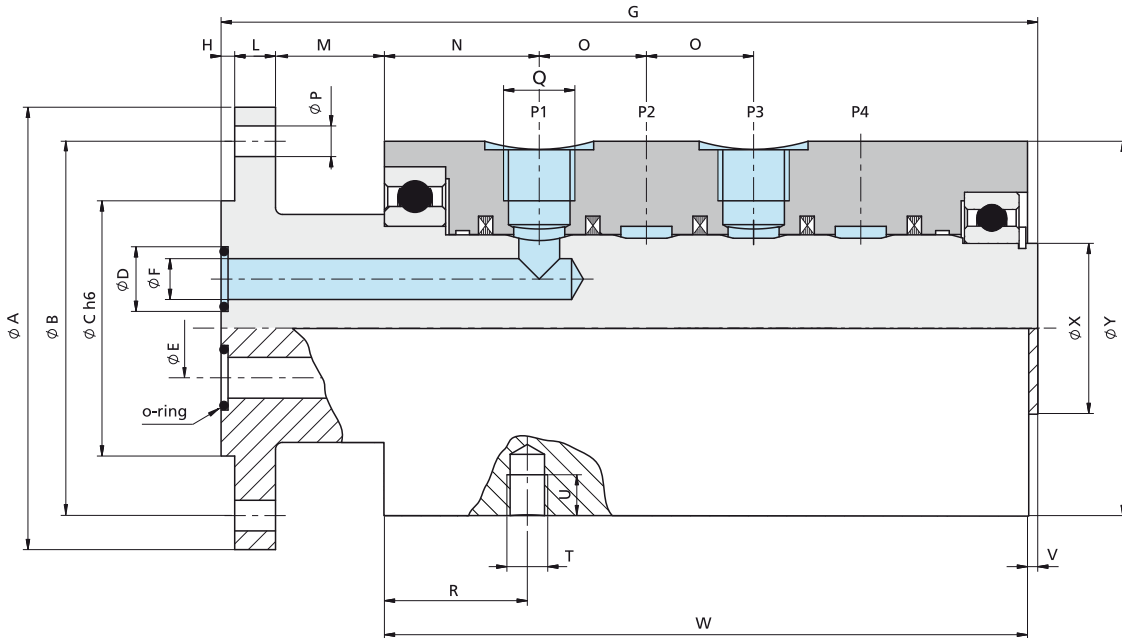
Characteristics

Type MP is equipped with radial shaft seals for elastic contact. One or several media can be transferred contemporaneously through 2 to 10 passages. The sealing elements tighten the radial transfer between housing and rotor. The product is available according to catalog dimensions or on request with custom made flanges and/or axial hole for electric cables, axial inlets and/or radial outlets, drains between different media. Type MP can be used for individual combinations on request. The dimensions for 2 to 10 passages shown in the table as standard design are a first indication of the technical potential of this type.

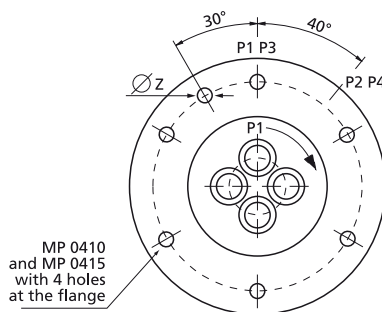
Application Data

- Pressure PN max: → 200 bar* for oil.
10 bar for gas, air, water.
- Speed max: → 200 rpm*
- Temperature max: → 80°C
- Filtration ratio: → 50 µm

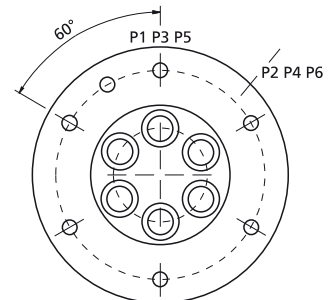
** Avoid combination of maximum values. For correct selection get in contact with the factory.*



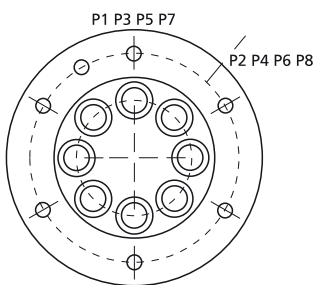
2 Passages



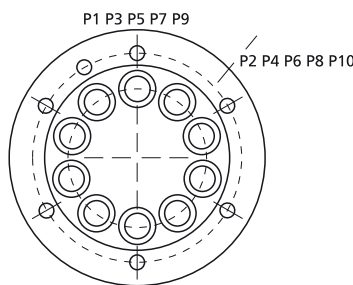
4 Passages



6 Passages



8 Passages



10 Passages



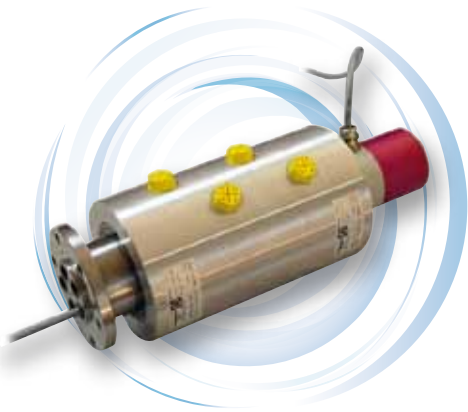
Dimensions

Type	MP0206	MP0406	MP0606	MP0806	MP01006	MP0210	MP0410	MP0610	MP0810	MP1010
Cod. Art. A	1119111	1119311	1119511	1119611	1119711	1119121	1119321	1119521	1119621	1119721
Cod. Art. B	1119112	1119312	1119512	1119612	1119712	1119122	1119322	1119522	1119622	1119722
Cod. Art. C	1119113	1119313	1119513	1119613	1119713	1119123	1119323	1119523	1119623	1119723
A	78	78	78	98	98	78	110	98	115	125
B	62	62	62	80	80	62	90	82	95	105
C	45	45	45	60	60	45	60	65	75	85
D	11	11	11	11	11	16	16	16	16	16
E	15	26	26	42	42	20	24,5	40	53	63
F	6	6	6	6	6	9	9	9	9	9
X	25	35	35	50	50	35	40	55	65	75
Y	81	89	89	104	104	94	95	109	125	140
G	145	178	219	275	318	156	207	269	348	408
H	5	5	5	5	5	5	4	5	5	5
L	8	8	8	10	10	8	10	10	12	12
M	21	21	21	21	21	21	28	28	33	33
N	42	37,5	37,5	39,5	39,5	45,5	41	43	46	48
O	26	20,5	20,5	21,5	21,5	29	26	26	28	28
P	6.5x6	6,5 (x6)	6,5 (x6)	6,5 (x6)	6,5 (x6)	6.5x6	6,5 (x4)	8,5 (x6)	8,5 (x6)	8,5 (x6)
Q	G1/4	G1/4"	G1/4"	G1/4"	G1/4"	G3/8	G3/8"	G3/8"	G3/8"	G3/8"
R	30	37	37	39	39	30	39	41	44	46
T	M8	M10	M10	M10	M10	M8	M10	M10	M10	M10
U	10	10	10	10	10	10	10	10	10	10
V	1	3	3	3	3	2	3	3	3	3
W	110	137	178	232	275	120	162	219	291	351
Z	4.5	4,5	4,5	4,5	4,5	4,5	6,5	6,5	6,5	6,5

Dimensions

Type	MP0215	MP0415	MP0615	MP0815	MP1015	MP0220	MP0420	MP0620	MP0820	MP0225	MP0425
Cod. Art. A	1119131	1119331	1119531	1119631	1119731	1119141	1119341	1119541	1119641	1119151	1119351
Cod. Art. B	1119132	1119332	1119532	1119632	1119732	1119142	1119342	1119542	1119642	1119152	1119352
Cod. Art. C	1119133	1119333	1119533	1119633	1119733	1119143	1119343	1119543	1119643	1119153	1119353
A	98	130	125	148	158	115	138	148	168	115	168
B	80	110	100	122	132	95	111	121	141	95	138
C	60	75	75	95	105	65	85	95	115	75	105
D	19	19	19	19	19	24	24	24	24	29	29
E	23	29	48	66	76	28	52	60	80	34	66
F	12	12	12	12	12	18	18	18	18	22	22
X	40	50	65	85	95	55	75	85	105	65	95
Y	106	110	128	158	175	123	145	160	198	146	179
G	167	240	322	401	468	198	297	378	463	204	382
H	5	4	5	5	5	5	5	5	5	5	5
L	10	12	14	16	16	12	16	16	16	12	20
M	23	32	40	45	45	35	45	45	45	28	55
N	47	45,5	47,5	51,5	53,5	52	53	55	59	56	65
O	32	31,5	31,5	31,5	31,5	38	38	38	38	42	52
P	6.5x6	9 (x4)	12,5 (x6)	12,5 (x6)	12,5 (x6)	8.5x6	12,5 (x6)	12,5 (x6)	12,5 (x6)	8.5x6	17 (x6)
Q	G1/2	G1/2"	G1/2"	G1/2"	G1/2"	G3/4	G3/4"	G3/4"	G3/4"	G1	G1"
R	37	42	44	48	50	40	46	48	52	44	54
T	M10	M12	M12	M12	M12	M10	M12	M12	M12	M10	M16
U	10	12	12	12	12	10	12	12	12	10	16
V	2	3	3	3	3	2.5	3	3	3	3	4
W	127	189	256	238	395	146	224	305	390	156	294
Z	4.5	10,5	10,5	10,5	10,5	6.5	10,5	10,5	10,5	6.5	10,5

MP1020-MP0625-MP0825-MP1025: Dimensions on request.
Subject to technical change without notice.



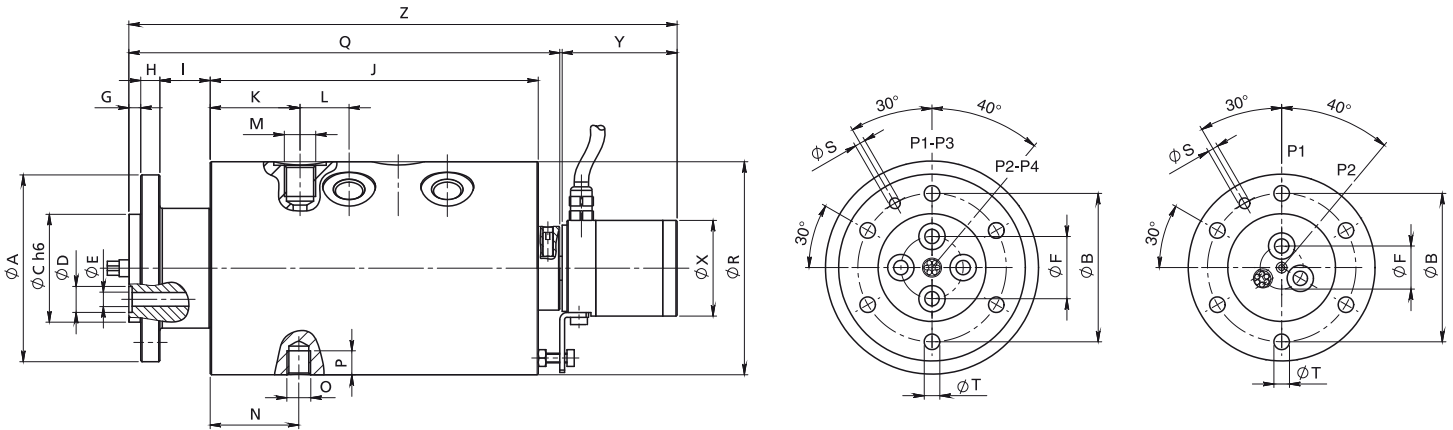
► **Characteristics**

Type MPE is a multi-pass rotary joint called Combijoint with 2 or 4 passages including a slip ring with gold/gold contacts for 6/12/18 poles. The slip ring can transfer power, signals, digital data, field bus. Standard protection is IP 64. The fluid transfer can be realised with type MP02 or MP04 and is suitable for hydraulic oil, water, gas or air and with central bore for electric cables. Housing design with radial connections G/BSP (ISO 228).

► **Application Data**

- Pressure PN max: —————→ 200 bar* for Oil.
10 bar for Gas, Air, Water.
- Speed max: —————→ 200 rpm*
- Temperature max: —————→ 80°C
- Filtration ratio: —————→ 50 µm
- Voltage: —————→ mV – 500V
- Current: —————→ mA – 24A

* Avoid combination of maximum values. For correct selection get in contact with the factory.



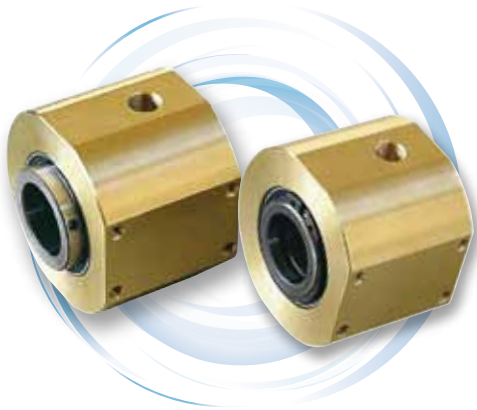
► **Dimensions**

Type	MPE0206	MPE0210	MPE0406	MPE0410
Cod. Art. A	1119111	1119121	1119311	1119321
Cod. Art. B	1119112	1119122	1119312	1119322
Cod. Art. C	1119113	1119123	1119313	1119323
A	78	78	78	110
B	62	62	62	90
C	45	45	45	60
D	11	16	11	16
E	6	9	6	9
F	18	24	26	32
G	5	5	5	5
H	8	8	8	10
I	21	21	21	28
J	96	110	137	162
K	37.5	41	37.5	41
L	20.5	26	20.5	26
M	G 1/4	G 3/8	G 1/4	G 3/8
N	37	39	37	39
O	M8	M8	M10	M10
P	10	10	10	10
Q	140	155	180	215
R	78	88	88	93
S	4.5	4.5	4.5	6.5
T	6.5 (x6)	6.5 (x6)	6.5 (x6)	6.5 (x6)

Type	MPE0206	MPE0210	MPE0406	MPE0410		
Cod. Art. A	1119111	1119121	1119311	1119321		
Cod. Art. B	1119112	1119122	1119312	1119322		
Cod. Art. C	1119113	1119123	1119313	1119323		
X	Y	SRK	Z	Z	Z	Z
40	53	40/6	195	210	235	270
40	77	40/12	219	234	259	294
40	101	40/18	243	258	283	318
60	58	60/6	200	215	240	275
60	82	60/12	224	239	264	299
60	106	60/18	248	263	288	323
80	65	80/6	207	222	247	282
80	90	80/12	232	247	272	307
80	115	80/18	257	272	297	332



Subject to technical change without notice.



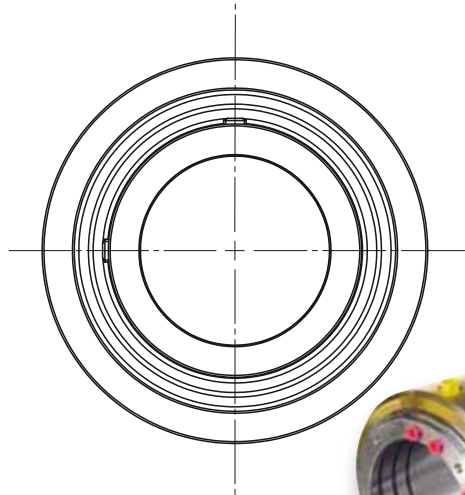
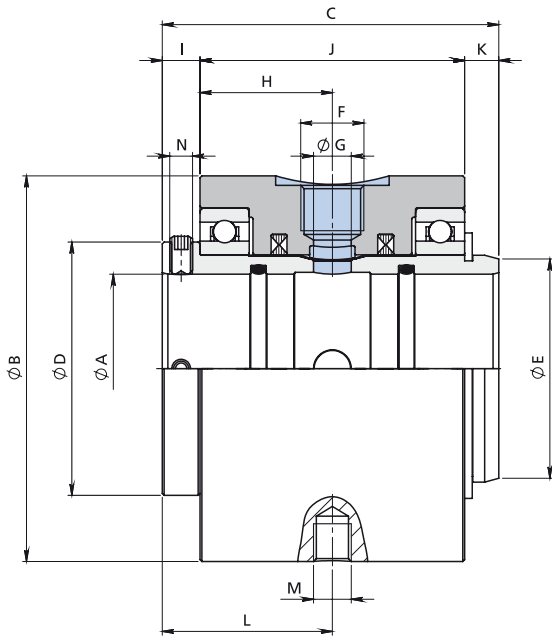
Characteristics

Type MPH 01 is designed as hollow shaft rotary joint, suitable for an over-the-shaft-mounting or shaft ends. The radial seals operate on a shaft sleeve. Sealing technology uses radial seal elements with elastic contacts sealing the radial transfer between housing and shaft sleeve. Also available for more than one passage. Housing design with radial connections G/BSP (ISO 228).

Application Data

- Pressure PN max: 200 bar* for Oil.
10 bar for Gas, Air, Water.
- Speed max: 200 rpm*
- Temperature max: 80°C
- Filtration ratio: 50 µm

*Avoid combination of maximum values. For correct selection get in contact with the factory.



Dimensions

Type	MPH 010620	MPH 0106025	MPH 0106030	MPH 0106035	MPH 0106040	MPH 0106050	MPH 0106060	MP H0106070	MPH 0106080	MPH 0106090	MPH 0106100
Cod. Art. A	1119H011020	1119H011025	1119H011030	1119H011035	1119H011040	1119H011050	1119H011060	1119H011070	1119H011080	1119H011090	1119H011100
Cod. Art. B	1119H012020	1119H012025	1119H012030	1119H012035	1119H012040	1119H012050	1119H012060	1119H012070	1119H012080	1119H012090	1119H012100
Cod. Art. C	1119H013020	1119H013025	1119H013030	1119H013035	1119H013040	1119H013050	1119H013060	1119H013070	1119H013080	1119H013090	1119H013100
A	ø20F6	ø25F6	ø30F6	ø35F6	ø40F6	ø50F6	ø60F6	ø70F6	ø80F6	ø90F6	ø100F6
B	ø68	ø72	ø78	ø82	ø92	ø102	ø118	ø128	ø138	ø148	ø168
C	75	75	75	75	89	89	99	99	99	112	112
D	ø34	ø40	ø44	ø48	ø56	ø67	ø74	ø92	ø102	ø112	ø128
E	ø28	ø33	ø38	ø43	ø48	ø58	ø68	ø83	ø93	ø103	ø118
F	4x90°ø6	4x90°ø6	4x90°ø6	4x90°ø6	4x90°ø10	4x90°ø10	4x90°ø15	4x90°ø15	4x90°ø15	4x90°ø20	4x90°ø20
G	G1/4	G1/4	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G1/2	G3/4	G3/4
H	30	30	30	30	35	35	40	40	40	45	45
I	8	8	8	8	10	10	10	10	10	12	12
J	60	60	60	60	70	70	80	80	80	90	90
K	7	7	7	7	9	9	9	9	9	10	10
L	38	38	38	38	45	45	50	50	50	57	57
M	M8	M8	M8	M8	M10	M10	M12	M12	M12	M14	M14
N	2x90°M5	2x90°M5	2x90°M5	2x90°M5	2x90°M6	2x90°M6	2x90°M6	2x90°M6	2x90°M6	2x90°M8	2x90°M8

Subject to technical change without notice.



Characteristics

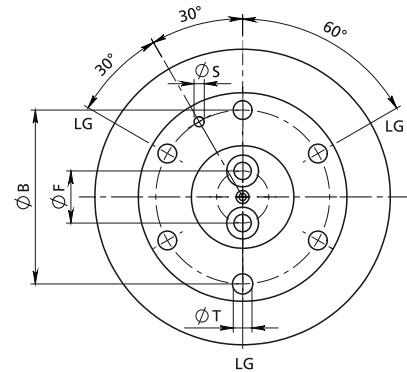
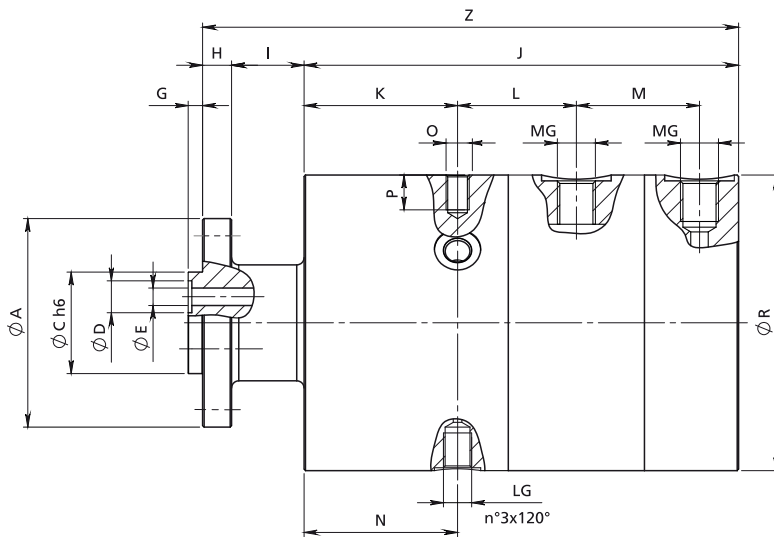
Type MPT is a two way design to transfer water or air or hydraulic oil at low pressure, only one medium. Different media could mix up in case of leakage. Seal design with mechanical seals, therefore suitable for higher speed. Material for rotor and housing depending on medium. Housing design with radial connections G/BSP (ISO 228). Axial housing connection on request.

Rotor design with fixed flange or for K-flange and inner rings.

Application Data

- Pressure PN max: 10 bar*
- Special version: 25 bar
- Speed max: 1.000 rpm*
- Temperature max: 80°C
- Filtration ratio: 50 µm

* Avoid combination of maximum values. For correct selection get in contact with the factory.



Dimensions

Type	MPT0206	MPT0210	MPT0215	MPT0220	MPT0225
Cod. Art. A	1119T111	1119T121	1119T131	1119T141	1119T151
Cod. Art. C	1119T113	1119T123	1119T133	1119T143	1119T153
Cod. Art. D	1119T114	1119T124	1119T134	1119T144	1119T154
Cod. Art. G	1119T116	1119T126	1119T136	1119T146	1119T156
A	72	78	98	124	134
B	60	65	80	100	110
C	35	45	55	65	75
D	11	16	19	24	29
E	6	9	12	18	22
F	18	24	28	34	38
G	5	5	5	5	5
H	10	10	12	14	14
I	25	25	35	45	45
J	150	155	178	196	221
K	53	53	60	69	78
L	41	41	48	48	52.5
M	42.5	45.5	53.5	58.5	61
LG	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8
MG	G 1/4	G 3/8	G 1/2	G 3/4	G 1
N	53	53	60	69	78
O	M8	M8	M10	M10	M12
P	12	12	15	15	18
R	102	108	128	148	168
S	3.5	3.5	3.5	4.5	4.5
T	8.5	8.5	8.5	13	13
Z	185	190	225	255	280

Subject to technical change without notice.





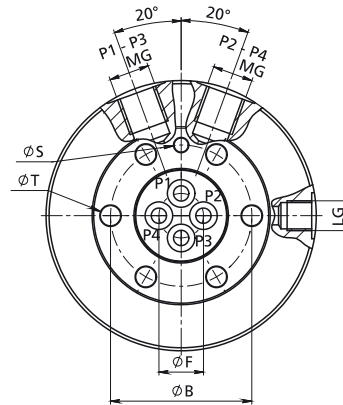
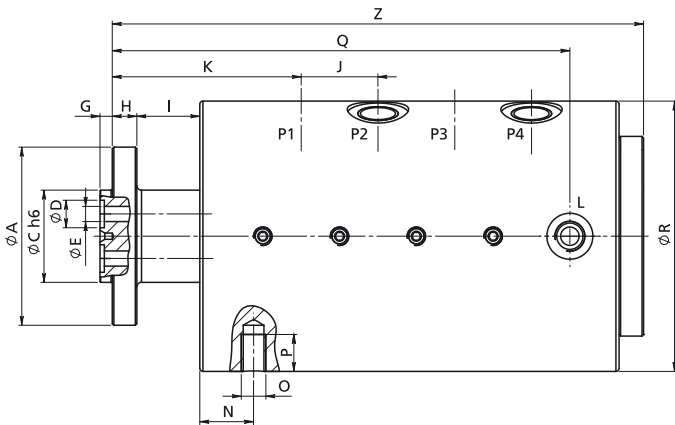
Characteristics

Type MPV is a 1 to 4 way design to transfer hydraulic oil at high speed and high pressure contemporaneously. Design is made with gap seal bushes – “hydrostatic relief”. Gap seals create controlled leakage, predictable and remaining within acceptable limits recirculated to the hydraulic unit. Housing in aluminium, rotor in steel. Stainless steel upon request. Rotor design with fixed flange or male thread right-hand or left-hand in G/BSP (ISO 228). Housing design with radial connections G/BSP (ISO 228).

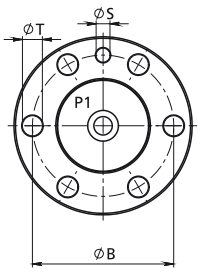
Application Data

- Pressure PN max: → 200 bar for Oil.
- Pressure PN min: → 3 bar
- Speed max: → 8.000 rpm
- Temperature max: → 80 °C
- Filtration ratio: → 15 µm*

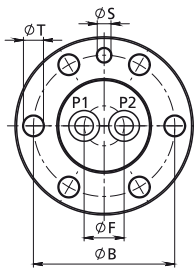
* For correct selection get in contact with the factory.



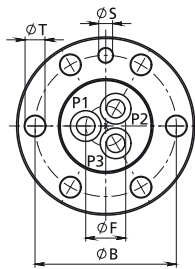
MPV0406



MPV0106



MPV0206

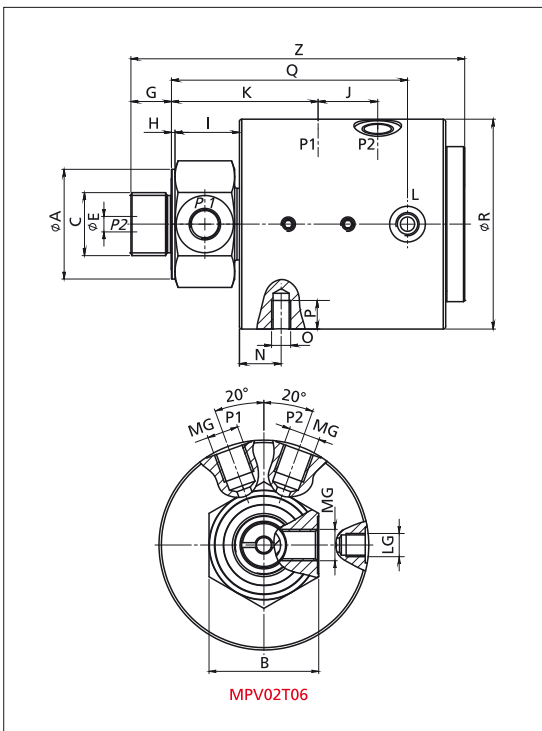


MPV0306



Dimensions

Type	MPV0106	MPV0206	MPV02T06	MPV0306	MPV0406
Art. C	1119V013	1119V113	1119V113T	1119V213	1119V313
Art. D	1119V014	1119V114	1119V114T	1119V214	1119V314
Art. E	1119V015	1119V115	1119V115T	1119V215	1119V315
A	58	58	46	58	58
B	46	46	46	46	46
C	30	30	G 3/4	30	30
D	10	10	/	10	9
E	6	6	6.5	6	5
F	/	13	/	13	14.5
G	5	5	17	5	5
H	8	8	1.5	8	8
I	22	22	27	22	22
J	25	25	25	25	25
K	64	64	64	64	64
LG	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8
MG	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
N	34	34	34	34	34
O	M8	M8	M8	M8	M8
P	12	12	12	12	12
Q	76,5	101,5	101,5	126,5	151,5
R	84	84	84	84	84
S	4.5	4.5	/	4.5	4.5
T	6.5	6.5	/	6.5	6.5
Z	100	125	142	150	175



MPV02T06

Subject to technical change without notice.

Special versions and Combijoint

MP series can be used in combination with other MAIER rotary joints (i.e. series DP) or with slip rings. In these cases the group is called Combijoint and manufactured exclusively according to the order of the customer.

Possible applications:

- ▶ *Rotating tables*
- ▶ *Injection moulding machines for plastic materials with rotating tables*
- ▶ *Automation*
- ▶ *Machine tools*
- ▶ *Tanning machines*
- ▶ *Glass machines*
- ▶ *Steel plants*
- ▶ *Machines for food industries*
- ▶ *Filling machines*
- ▶ *Mixers*
- ▶ *Coiling systems*
- ▶ *Robotics*

Example:

Combijoint type: **MP0606A + MP 0606D + SRK80**

MP0606A: 4 ways for water + 2 ways for air

MP 0606D: 6 ways for hydraulic oil

SRK80: Slip ring with 9 poles - 6A - 500V

Speed: 10 rpm

Advantages:

- ▶ *Complete separation of the circuits air / water*
- ▶ *DP rotary joint for water with mechanical seal in Silicon Carbide*
- ▶ *Extended life*
- ▶ *Easy maintenance*



Inquiry form

Company _____ Name _____
 Street _____
 Postal Code _____ City _____ Country _____
 Phone _____ Fax _____ E-mail _____

Technical data

Application* _____
 Number of passages** _____ Nominal Diameter** _____
 Medium / Media _____
 Pressure / s _____ Flow rate / s _____
 Temperature / s _____ Speed _____
 In case of angular movements, please specify:
 Rotating angle _____
 Accomplished which speed _____
 Is the rotation in the same direction Yes or returns back - Yes
 Axial bore request? Yes Bore diameter _____ No
 Mounting: Horizontal Vertical (Flange facing down) Vertical (Flange facing up)

* If possible, please enclose drawing of the application. ** Specify if different sizes.

Technical Data for slip ring selection

Total No. of poles: _____ Voltage max (V) _____ Current max (A) _____
 Type of transmission: Power No. of poles: _____
 Signals No. of poles: _____
 Control No. of poles: _____
 Digital Data No. of poles: _____

Speed: _____
 Mounting: Flange
 Shaft plug-in
 Special connectors required: Yes No
 (If yes, please specify) _____

Protection: IP _____
 Quantity: _____
 Date: _____

Notes: _____

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