maier america

Rotary Joints

Series DP – US Catalog

NPT Threads



DP rotary joints are suitable for:

– hot and cold water
– modified design -750 for thermal oil
– Small Series also for hydraulic oil and compressed air
– high speeds possible due to low frictional torque
– can be delivered with Atex certification

DP is available in four variants:

– DP 06, the Small Series, page 11
– DP 10 up to 50 with variation -750, page 6 to 10
– DP 65 up to 100, the Large Series, page 12 to 15
– DPN, the Stainless Steel Series, page 16 to 18

The Standard Series DP 3/8 to 2

■ Other advantages
– low frictional torque (important for plastic foil production)
– long service life
– easy field repair and maintenance.

■ Both housing and elbow are made of brass and are beadblasted without harm to the environment. The bearings are protected by 5 drain holes in the housing.

■ Chrome steel rotor.

■ Two ball bearings, factory-lubricated, maintenance-free up to 176° F, for higher temperatures relubrication through easily accessible grease point required.

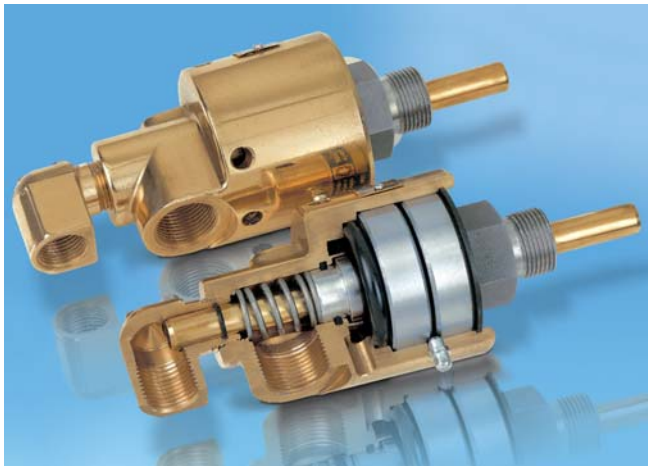
■ The internal mechanical seal is balanced and can be easily replaced with other sealing combinations. Combination 1 suitable for water up to 176° F, 3 for water and thermal oil up to 320° F, 4 recommended for contaminated water, 5 for air.

■ Series -750 for thermal oil, equipped with heat-stabilized ball bearings, Viton O-rings and axial shaft seal for additional bearing protection.

■ Connection to rotating pressure system by means of
– standardized connection pieces with right-hand or left-hand male thread NPT (ANSI)
– K-flange and conical inner ring (DN 1 1/2 and larger)
– fixed flange (DN 1 1/2 and larger), sealing with groove and O-ring.

■ Radial housing connection with right-hand thread NPT (ANSI), axial with right-hand thread NPT (ANSI) and screw plug. For series -750 radial and axial housing connections with right-hand thread NPT (ANSI). Axial thread with screw plug.

■ Due to the low frictional moment anti-rotational devices are not required.



Elbows

DP Rotary Joints are supplied as one way flow unions which can be converted to two way flow unions by using elbows:
– P 2 ... for non-rotating inner pipe (with thread)
– PR 2 ... for rotating inner pipe (directly located in elbow)
– PO 2 ... for non-rotating inner pipe, which floats within the elbow and O-ring, anti-rotational protection by means of screw. Inner pipes for type PO2 are available.
– PO 2 ... -700 as PO 2, but with Viton O-ring for thermal oil.

Drain Plug and Hose Coupling for drain holes

In dusty environment we recommend to block the drain holes with plugs to protect the seal. A drain hose coupling for a 1/4 inch tube (OD) shall be connected to the 6 o'clock position drain hole.

1 set (art.no.1190345) =

4 drain plugs +
1 hose coupling, suitable for all sizes.



The Large Series DP 2 1/2 to 4

- The advantages of low frictional torque have been maintained. High speeds are possible, too.
- Balanced mechanical seal. The springs are situated outside of the medium flow.
- Housing made of lacquered steel. We offer 3 types of housings: for one way flow, two way flow, non-rotating and rotating inner pipe. The inner pipes are supported in the housing, no elbow required.
- Bearings are factory-lubricated, lubrication point easily accessible.
- Connection to the rotating pressure system same as Standard Series.
- Radial and axial housing connection with right-hand female thread NPT (ANSI).
- Anti-rotation device despite low torque to protect the hoses.
- Set of drain plugs fits Large Series as well.
- All other technical features same as Standard Series.





The Stainless Steel Series DPN

- The design of series DPN corresponds to that of the Standard Series. DPN is suitable for applications in the food industry or for aggressive media or areas. The standard design is made of 430F (1.4104) steel. For demanding applications a modified design type -100 is available in 316Ti (1.4571).
- One way flow design is available with radial (1B) or axial (1C) connection. The two way flow design is available for non-rotating (2) or rotating (R2) inner pipe. The radial connection can be used in any position on a radius of 360°.
- Ball bearings, factory-lubricated for life.
- Connection to rotating pressure system by means of standardized connection pieces with right-hand or left-hand male thread NPT (ANSI).
- Radial and axial housing connection with right-hand female thread NPT (ANSI).
- All other technical features same as Standard Series.

The Small Series DP 1/4

- Housing made of anodized aluminium. Atex design without anodization.
- Ball bearings, factory-lubricated for life.
- Housing only available for one way flow with radial connection, right-hand female thread NPT (ANSI) or for installation into the roll journal with axial connection.
- Connection to rotating pressure system by means of standardized connection pieces with right-hand or left-hand male thread in NPT (ANSI).

Application Data

Series		DP	DP	DP-750	DP	DPN
Design					1, 2, R2	1B, 1C, 2, R2
Nominal diameter DN inch		...1/4	3/8...2	3/8...2	2 1/2...4	3/8...2
Medium		compressed air cooling water hot water hydraulic oil)*	cooling water hot water	thermal oil	cooling water hot water	cooling water hot water
Temperature Pressure PN	min…max °F min…max psig	14...248 -3...145	14...320 -3...145	32...320 -3...145	14...284 -3...145	14...194 -3...145
Speed	max...rpm	3000	2200/DN 2500	2200/DN 2500	2200/DN 850	2200/DN 2500

Avoid combination of maximum values. Higher values, other media and other threads upon request.

)* Application data for hydraulic oil: max 176°F, 1160 psi, 400 rpm

Ordering instructions

Example: DP | 15 | R | 3 | 1 | -100

Standard and Small Series DP Page 6 to 11

Nominal diameters DN in inch (≙ dimension A)
1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2

Rotor connection
- R right-hand thread
- L left-hand thread
- K K-flange DN 1 1/2 and DN 2
- F fixed flange DN 1 1/2 and DN 2

Possible combinations of housing connection B with rotor connection D

0	NPT	K or F	
1	NPT	G	
3	NPT	NPT	Other combinations upon request.

Sealing combination
- 1 synthetic carbon 19K – chrome steel 18E
- 3 metal impregnated synthetic carbon 19W – SIC 18C (silicon carbide)
- 4 SIC 19C – SIC 18C
- 5 synthetic carbon 19K – SIC 18C — DP 1/4 only available with combination 5

Consecutive numbers for special designs, numbering done by factory,
-750 for thermal oil.

Ordering instructions - Elbow P

Example: PO2 | 15 | N | -700

Design for inner pipe
- P2 non-rotating (with right-hand thread, NPT, ANSI)
- PR2 rotating
- PO2 non-rotating (floating within O-ring)

Nominal diameter identical with nominal diameter of DP

Thread at connection C2
- U for US size (ANSI) inner pipe and NPT thread at inner pipe
- N for European size inner pipe and G thread at inner pipe

Consecutive numbers for special designs, numbering by factory,
-700 for hot oil.

Ordering instructions

Example: DP | R | 2 | 100 | L | 3 | 4 | -001

The Large Series DP 2 1/2 to 4 Page 12 to 15

Design for rotating inner pipe
R with slide bearing and gland seal

Number of housing connections
1 for one way flow
2 for two way flow

Nominal diameters DN in inch (≙ dimension A)
2 1/2, 3, 3 1/2, 4

Rotor connection
R right-hand thread
L left-hand thread
K K-flange

Possible combinations of
housing connection B with rotor connection D

0	NPT	K or F	
1	NPT	G	
3	NPT	NPT	Other combinations on request.

Sealing combination
1 synthetic carbon 19K – chrome steel 18E
3 metal impregnated synthetic carbon 19W – SIC 18C (silicon carbide)
4 SIC 19C – SIC 18C

Consecutive numbers for special designs, numbering by factory.

Ordering instructions

Example: DPN | 1B | 25 | R | 3 | 3 | -101

The Stainless Steel Series DPN Page 16 to 18

Number of housing connections
1B radial connection
1C axial connection
2 two way flow with fixed inner pipe
R2 two way flow with rotating inner pipe

Nominal diameter DN in inch (≙ dimension A)
3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2

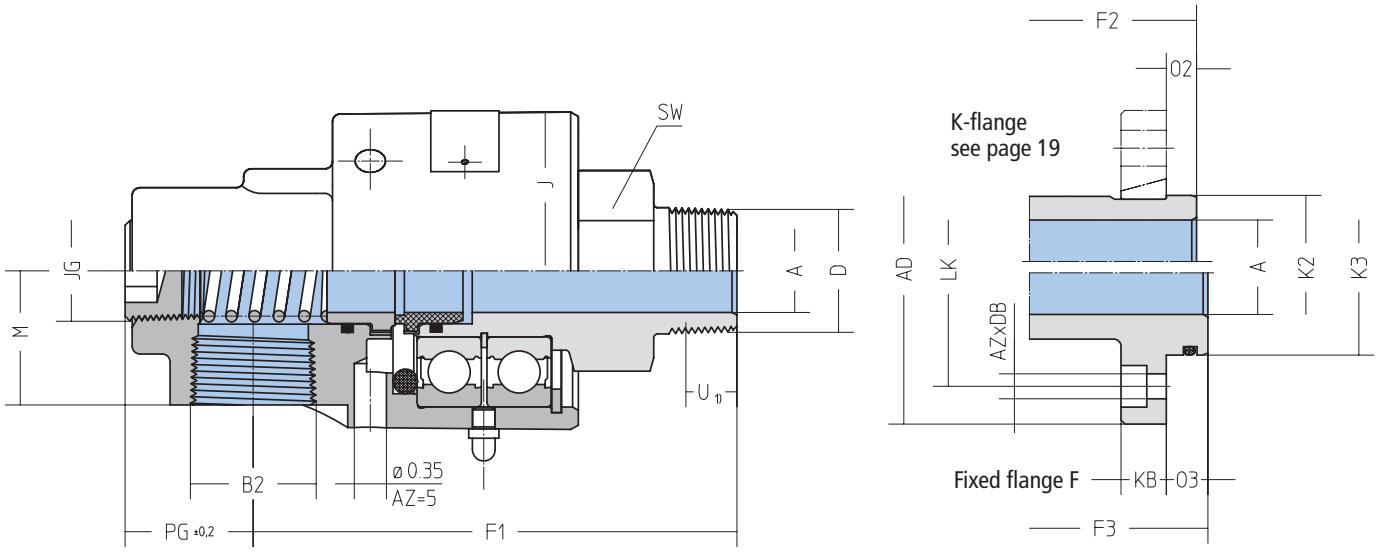
Rotor connection
R right-hand thread
L left-hand thread
K K-flange DN 1 1/2 and DN 2

Possible combinations of
housing connection B with rotor connection D

0	NPT	K	
1	NPT	G	
3	NPT	NPT	Other combinations on request.

Sealing combination
1 synthetic carbon 19K – chrome steel 18E
3 metal impregnated synthetic carbon 19W – SIC 18C (silicon carbide)
4 SIC 19C – SIC 18C

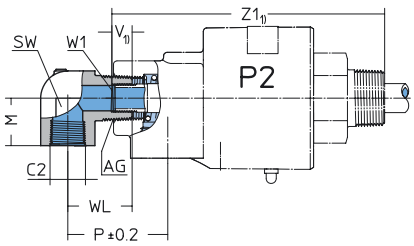
001 Consecutive numbers for special designs in stainless steel 430 F (1.4104), numbering by factory.
100 Housing and rotor in stainless steel 316 Ti (1.4571).
101 Special designs in stainless steel 316 Ti (1.4571) – numbering by factory.



DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	DP 10 R 31 1112050-031	DP 15 R 31 1112100-031	DP 20 R 31 1112150-031	DP 25 R 31 1112200-031	DP 32 R 31 1112250-031	DP 40 R 31 1112300-031	DP 50 R 31 1112350-031
Type Order-No.	DP 10 L 31 1112051-031	DP 15 L 31 1112101-031	DP 20 L 31 1112151-031	DP 25 L 31 1112201-031	DP 32 L 31 1112251-031	DP 40 L 31 1112301-031	DP 50 L 31 1112351-031
Type Order-No.						DP 40 K 01 1112302-001	DP 50 K 01 1112352-001
Type Order-No.						DP 40 F 01 1112303-001	DP 50 F 01 1112353-001
Ø A	0.374	0.512	0.689	0.866	1.181	1.378	1.850
B2 (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
D (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
F1	3.465	3.858	4.409	5.039	6.024	6.929	7.520
F2						6.457	7.913
F3						6.693	7.559
Ø J	2.126	2.283	2.913	3.307	3.937	4.331	5.394
Ø K2						1.967 / 1.969	2.557 / 2.559
Ø K3						2.557 / 2.558	3.147 / 3.148
M	0.945	0.984	1.220	1.417	1.654	1.772	2.244
O2						0.394	0.394
O3						0.787	0.787
PG +/-0.2	1.043	0.945	1.181	1.457	1.811	2.106	2.362
U 1)	0.323	0.427	0.446	0.530	0.550	0.550	0.567
Ø AD						3.937	4.921
AZ x ø DB						5 x 0.354	5 x 0.433
JG (NPT)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
KB						0.591	0.591
ØLK						3.150	3.937
SW	0.945	1.181	1.417	1.811	2.165	2.362	2.953
Weight (lbs)	1.8	2.2	4.0	5.3	9.9	13.6	19.8

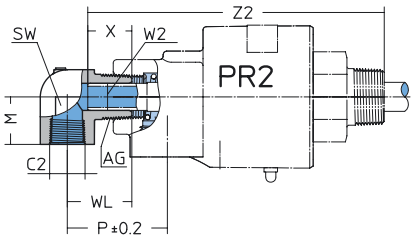
1) approx. engagement depth (wrench tight)

Elbow for series DP



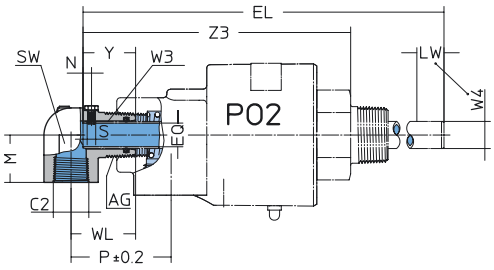
Type P 2

for non-rotating inner pipe (with right-hand thread)



Type PR 2

for rotating inner pipe, directly supported in elbow



Type PO 2

for non-rotating inner pipe, floating within elbow and O-ring, anti-rotational protection by means of screw. Inner pipe for type PO 2 available.

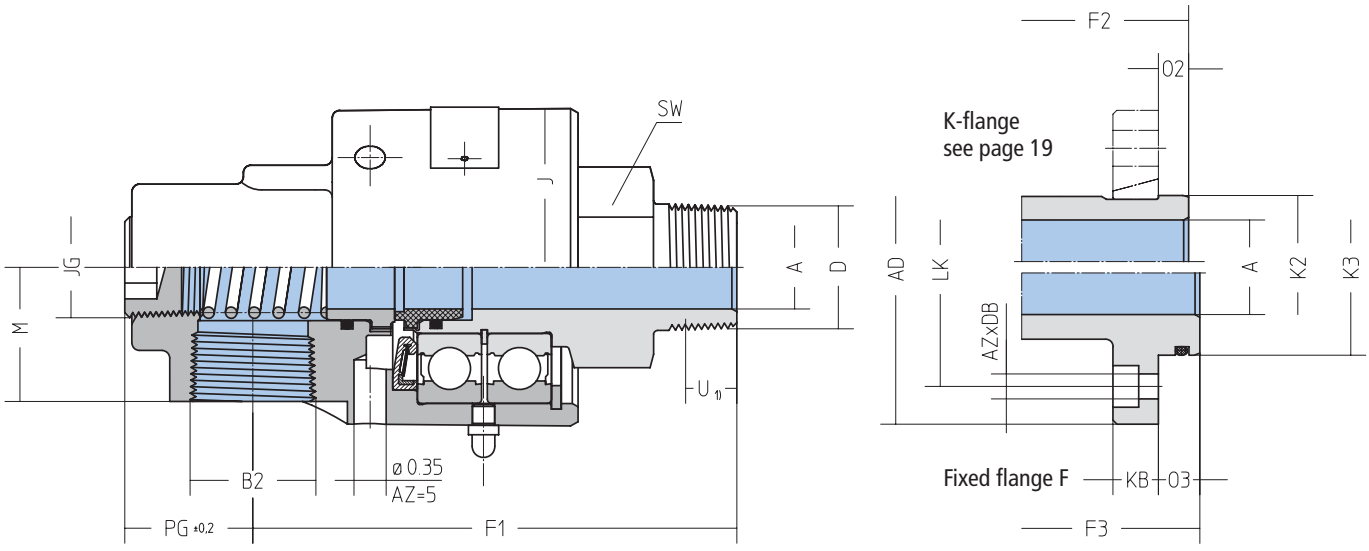
DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	P2 10 N 1112069	P2 15 U 1112122	P2 20 U 1112172	P2 25 U 1112222	P2 32 U 1112272	P2 40 U 1112322	P2 50 U 1112372
Type Order-No.		PR2 15 U 1112123	PR2 20 U 1112173	PR2 25 U 1112223	PR2 32 U 1112273	PR2 40 U 1112323	PR2 50 U 1112373
Type Order-No.	PO2 10 N 1112071	PO2 15 N 1112121	PO2 20 N 1112171	PO2 25 N 1112221	PO2 32 N 1112271	PO2 40 N 1112321	PO2 50 N 1112371
C2 (NPT)	1/4	3/8	1/2	1/2	3/4	3/4	1 1/4
M	0.709	0.787	1.024	1.102	1.378	1.496	1.772
N	0.197	0.197	0.197	0.197	0.197	0.197	0.197
P+/- 0.2	1.673	1.516	2.008	2.323	2.913	3.228	3.858
Ø S	0.197	0.197	0.197	0.197	0.197	0.197	0.197
V 1)	0.315	0.217	0.311	0.323	0.427	0.446	0.530
W 1 (NPT)	M 6 x 1	1/8	1/4	3/8	1/2	3/4	1
Ø W 2 (pipe)		0.370/0.371	0.495/0.496	0.619/0.621	0.743/0.745	0.994/0.996	1.243/1.245
Ø W 3 (pipe)	0.232/0.236	0.390/0.394	0.508/0.512	0.626/0.630	0.862/0.866	1.020/1.024	1.335/1.339
X		0.768	1.004	1.102	1.378	1.457	1.535
Y	0.984	0.984	1.102	1.220	1.496	1.575	1.575
Z1 1)		4.528	5.335	6.181	7.500	8.681	9.590
Z2		5.079	6.043	6.988	8.465	9.685	10.591
Z3	5.079	5.315	6.142	7.087	8.583	9.803	10.630
AG (NPT)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
SW	0.866	0.866	1.260	1.260	1.417	1.417	2.165
WL	1.063	1.063	1.378	1.496	1.850	1.929	2.303
Weight (lbs)	0.2	0.2	0.7	0.7	1.1	1.3	2.9

Inner pipe for Elbow PO2

DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	ES 10 1190951	ES 15 1190952	ES 20 1190953	ES 25 1190954	ES 32 1190955	ES 40 1190956	ES 50 1190957
Ø W 4	0.233/0.236	0.390/0.394	0.507/0.512	0.626/0.630	0.861/0.866	1.019/1.024	1.332/1.339
Ø EQ	0.197	0.315	0.433	0.551	0.787	0.945	1.220
EL	6.929	7.402	7.598	9.921	10.591	11.693	13.465
LW	2.165	2.165	2.165	2.953	2.165	2.165	2.953

1) approx. engagement depth (wrench tight)

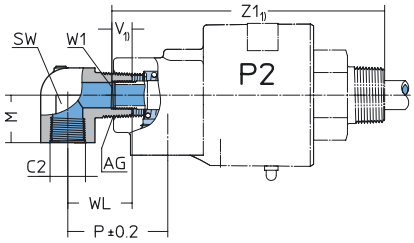
DP ...-750 DN 3/8 - 2



DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	DP 10 R 33-750 1112050-750	DP 15 R 33-750 1112100-750	DP 20 R 33-750 1112150-750	DP 25 R 33-750 1112200-750	DP 32 R 33-750 1112250-750	DP 40 R 33-750 1112300-750	DP 50 R 33-750 1112350-750
Type Order-No.	DP 10 L 33-750 1112051-750	DP 15 L 33-750 1112101-750	DP 20 L 33-750 1112151-750	DP 25 L 33-750 1112201-750	DP 32 L 33-750 1112251-750	DP 40 L 33-750 1112301-750	DP 50 L 33-750 1112351-750
Type Order-No.						DP 40 K 03-750 1112302-750	DP 50 K 03-750 1112352-750
Type Order-No.						DP 40 F 03-750 1112303-750	DP 50 F 03-750 1112353-750
Ø A	0.374	0.512	0.689	0.866	1.181	1.378	1.850
B2 (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
D (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
F1	3.465	3.858	4.409	5.039	6.024	6.929	7.520
F2						6.457	7.913
F3						6.693	7.559
Ø J	2.126	2.283	2.913	3.307	3.937	4.331	5.394
Ø K2						1.967 / 1.969	2.557 / 2.559
Ø K3						2.557 / 2.558	3.147 / 3.148
M	0.945	0.984	1.220	1.417	1.654	1.772	2.244
O2						0.394	0.394
O3						0.787	0.787
PG +/-0.2	1.043	0.945	1.181	1.457	1.811	2.106	2.362
U 1)	0.323	0.427	0.446	0.530	0.550	0.550	0.567
Ø AD						3.937	4.921
AZ x Ø DB						5 x 0.354	5 x 0.433
JG (NPT)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
KB						0.591	0.591
Ø LK						3.150	3.937
SW	0.945	1.181	1.417	1.811	2.165	2.362	2.953
Weight (lbs)	1.8	2.2	4.0	5.3	9.9	13.6	19.8

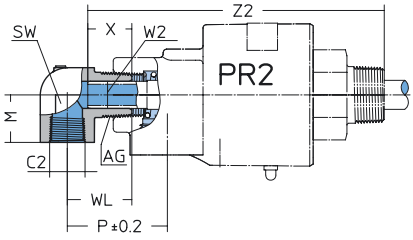
1) approx. engagement depth (wrench tight)

Elbow for series DP



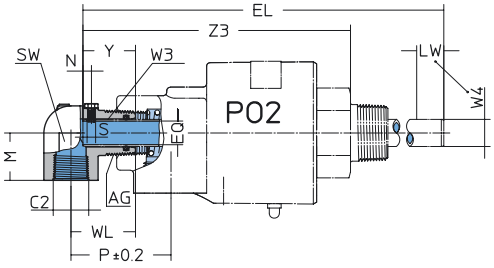
Type P 2

for non-rotating inner pipe (with right-hand thread)



Type PR 2

for rotating inner pipe, directly supported in elbow



Type PO 2

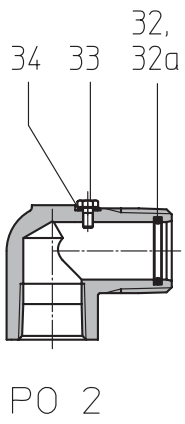
for non-rotating inner pipe, floating within elbow and O-ring, anti-rotational protection by means of screw. Inner pipe for type PO 2 available.

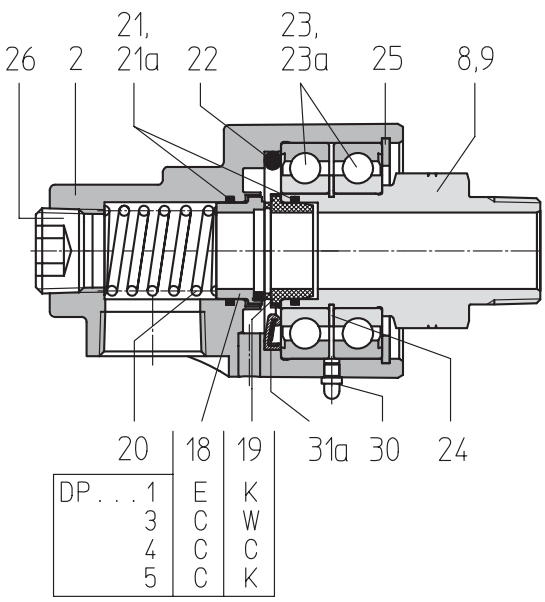
DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	P2 10 N 1112069	P2 15 U 1112122	P2 20 U 1112172	P2 25 U 1112222	P2 32 U 1112272	P2 40 U 1112322	P2 50 U 1112372
Type Order-No.		PR2 15 U 1112123	PR2 20 U 1112173	PR2 25 U 1112223	PR2 32 U 1112273	PR2 40 U 1112323	PR2 50 U 1112373
Type Order-No.	PO2 10 N-700 1112071-700	PO2 15 N-700 1112121-700	PO2 20 N-700 1112171-700	PO2 25 N-700 1112221-700	PO2 32 N-700 1112271-700	PO2 40 N-700 1112321-700	PO2 50 N-700 1112371-700
C2 (NPT)	3/4	3/8	1/2	1/2	3/4	3/4	1 1/4
M	0.709	0.787	1.024	1.102	1.378	1.496	1.772
N	0.197	0.197	0.197	0.197	0.197	0.197	0.197
P+/- 0.2	1.673	1.516	2.008	2.323	2.913	3.228	3.858
Ø S	0.197	0.197	0.197	0.197	0.197	0.197	0.197
V 1)	0.315	0.217	0.311	0.323	0.427	0.446	0.530
W 1 (NPT)	M 6 x 1	1/8	1/4	3/8	1/2	3/4	1
Ø W 2 (pipe)		0.370/0.371	0.495/0.496	0.619/0.621	0.743/0.745	0.994/0.996	1.243/1.245
Ø W 3 (pipe)	0.232/0.236	0.390/0.394	0.508/0.512	0.626/0.630	0.862/0.866	1.020/1.024	1.335/1.339
X		0.768	1.004	1.102	1.378	1.457	1.535
Y	0.984	0.984	1.102	1.220	1.496	1.575	1.575
Z1 1)		4.528	5.335	6.181	7.500	8.681	9.590
Z2		5.079	6.043	6.988	8.465	9.685	10.591
Z3	5.079	5.315	6.142	7.087	8.583	9.803	10.630
AG (NPT)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
SW	0.866	0.866	1.260	1.260	1.417	1.417	2.165
WL	1.063	1.063	1.378	1.496	1.850	1.929	2.303
Weight (lbs)	0.2	0.2	0.7	0.7	1.1	1.3	2.9

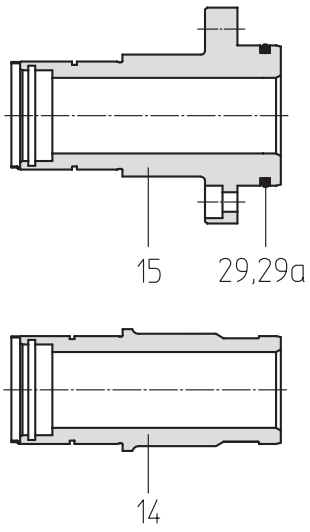
Inner pipe for Elbow PO 2 ...-700

DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	ES 10 1190951	ES 15 1190952	ES 20 1190953	ES 25 1190954	ES 32 1190955	ES 40 1190956	ES 50 1190957
Ø W 4	0.233/0.236	0.390/0.394	0.507/0.512	0.626/0.630	0.861/0.866	1.019/1.024	1.332/1.339
Ø EQ	0.197	0.315	0.433	0.551	0.787	0.945	1.220
EL	6.929	7.402	7.598	9.921	10.591	11.693	13.465
LW	2.165	2.165	2.165	2.953	2.165	2.165	2.953

1) approx. engagement depth (wrench tight)







	DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
2	Housing N	1112092	1112142	1112192	1112242	1112292	1112342	1112392
8	Rotor RN	1112080	1112130	1112180	1112230	1112280	1112330	1112380
9	Rotor LN	1112081	1112131	1112181	1112231	1112281	1112331	1112381
14	Rotor K						1112336	1112386
15	Rotor F						1112337	1112387
18E	Mechanical seal E	1112088-001	1112138-001	1112188-001	1112238-001	1112288-001	1112338-001	1112388-001
18C	Mechanical seal C	1112088-002	1112138-002	1112188-002	1112238-002	1112288-002	1112338-002	1112388-002
19K	Counter face K	3511391-001	3511392-001	3511393-001	3511394-001	3511395-001	3511396-001	3511397-001
19W	Counter faceW	3511391-002	3511392-002	3511393-002	3511394-002	3511395-002	3511396-002	3511397-002
19C	Counter face C	1112088-002	1112138-002	1112188-002	1112238-002	1112288-002	1112338-002	1112388-002
20	Compression spring	3511661	3511662	3511663	3511664	3511665	3511666	3511667
21	O-ring	3511809	3511866	3511721	3511929	3511947	3511886	3511696
21a	O-ring	3511809-001	3511866-001	3511721-001	3511929-001	3511947-001	3511886-001	3511696-001
22	O-ring	3511860	3511867	3511861	3511862	3511863	3511864	3511865
23	Ball bearing	3510200	3510079	3510202	3510203	3510086	3510204	3510090
23a	Ball bearing	3510077-010	3510079-010	3510097-010	3510082-010	3510086-010	3510087-010	3510090-010
24	Circlip	3501000	3501001	3501002	3501003	3501008	3501014	3501030
25	Circlip	3501220	3501219	3501222	3501223	3501205	3501221	3501246
26	Screw plug	3500663-004	3500662-004	3500684-004	3500621-004	3500622-004	3500623-004	3500624-004
29	O-ring						3511948	3511949
29a	O-ring						3511948-001	3511949-001
30	Grease nipple	3500918	3500918	3500918	3500918	3500918	3500918	3500918
31a	Shaft seal	3512325-001	3512326-001	3512327-001	3512328-001	3512329-001	3512330-001	3512331-001

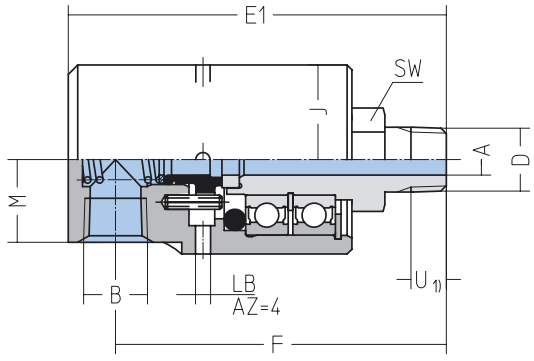
Spare Parts for Elbow PO2

	DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
32	O-ring	3511729	3511849	3511722	3511944	3511852	3511723	3511945
32a	O-ring	3511729-001	3511849-001	3511722-001	3511944-001	3511852-001	3511723-001	3511945-001
33	Hex. screw	3500014-003	3500014-003	3500015-003	3500015-003	3500014-003	3500014-003	3500015-003
34	CU-seal	3502122-001	3502122-001	3502122-001	3502122-001	3502122-001	3502122-001	3502122-001

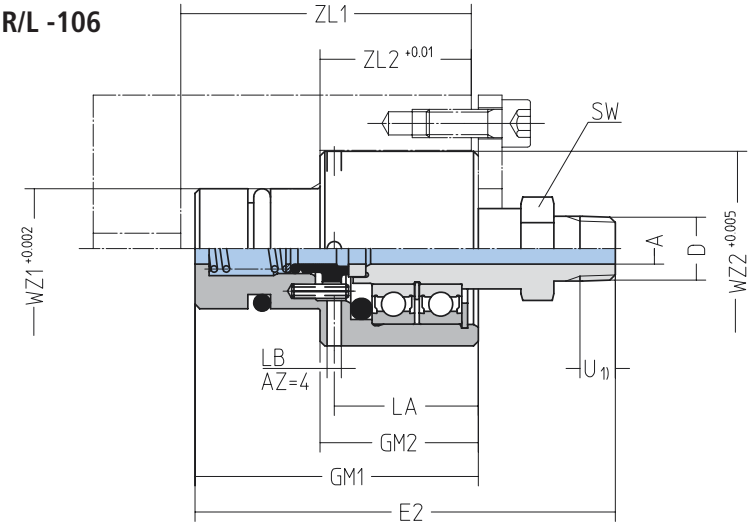
Pos. 31a instead of Pos. 22 upon request for additional bearing seal

(a) = execution for variant -700/-750 (thermal oil)

DP .. R/L 35



DP .. R/L -106



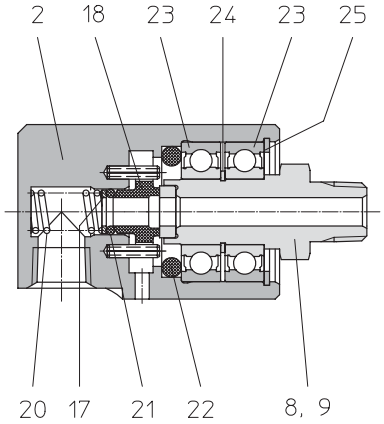
DN	1/4
Type Order-No.	DP 06 R 35 1112000-035
Type Order-No.	DP 06 L 35 1112001-035
Type Order-No.	DP 06 R -106 1112000-106
Type Order-No.	DP 06 L-106 1112001-106

Ø A	0.256
B	1/4
D	1/4
E1	3.150
E2	3.504
F	2.756
ØJ	1.575
M	0.689
U 1)	0.311
GM1	2.362
GM2	1.319
LA	1.181
ØLB	0.126
SW	0.748
WZ1	1.000 +0.002
WZ2	1.640 +0.005
ZL1	2.421
ZL2	1.259 +0.010
Weight (lbs)	0.7

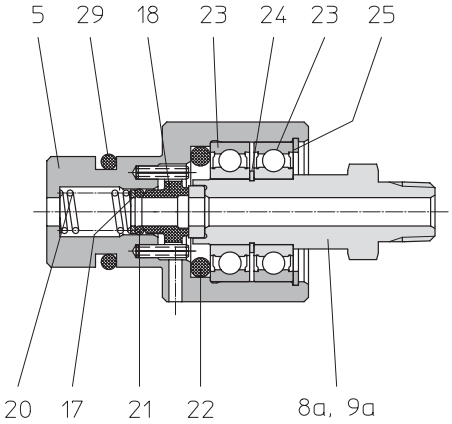
1) approx. engagement depth (wrench tight)

Spare Parts DN 1/4

DP .. R/L 35



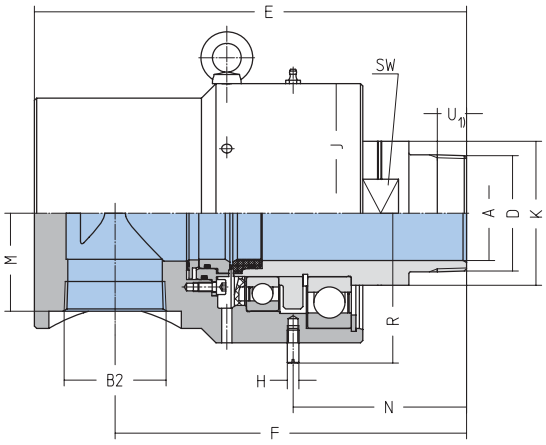
DP .. R/L -106

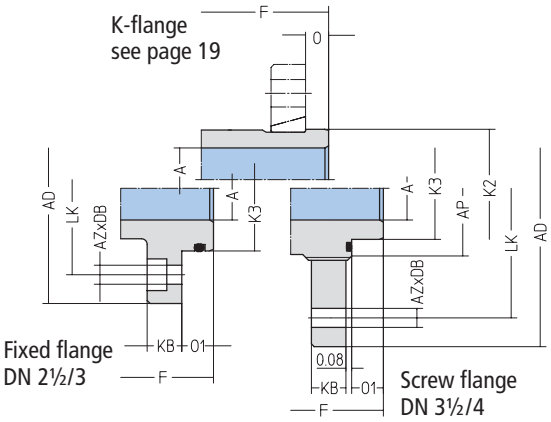


	DN	06
2	Housing N	1112042
5	Housing (-106)	1112041-058
8	Rotor RN	1112030-002
8a	Rotor RN (-106)	1112030-065
9	Rotor LN	1112031-002
9a	Rotor LN (-106)	1112031-065
17	Disc	3502113-001
18	Mechanical seal	3511390-001
20	Compression spring	3511521
21	O-ring	3511704-001
22	O-ring	3511906-016
23	Ball bearing	3510047
24	Circlip	3501025
25	Circlip	3501200
29	O-ring	3511868

DP1 DN 2 1/2 - 4

for one way flow of a medium





DN	2 1/2	3	3 1/2	4
Type Order-No.	DP 165 R 31 1112400-031	DP 175 R 31 1112575-031	DP 180 R 31 1112450-031	DP 1100 R 31 1112550-031
Type Order-No.	DP 165 L 31 1112401-031	DP 175 L 31 1112576-031	DP 180 L 31 1112451-031	DP 1100 L 31 1112551-031
Type Order-No.	DP 165 K 01-U 1112402-001-U	DP 175 K 01 1112577-001	DP 180 K 01-U 1112452-001-U	DP 1100 K 01-U 1112552-001-U
Type Order-No.	DP 165 F 01 1112403-001	DP 175 F 01 1112578-001	DP 180 F 01 1112453-001	DP 1100 F 01 1112553-001

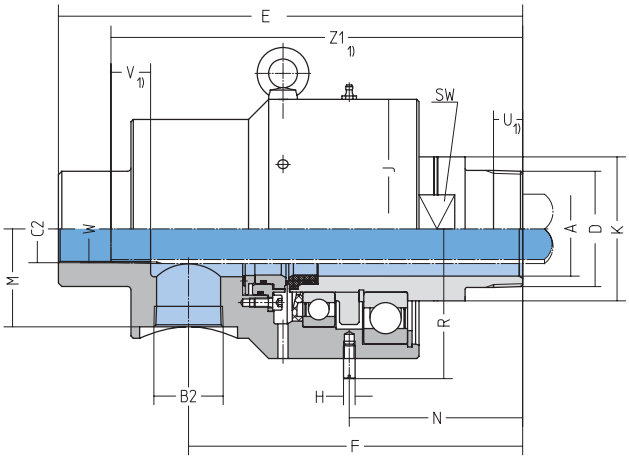
Ø A	2.559	2.835	3.228	3.858
B2 (NPT)	2 1/2	3	3	4
D (NPT)	2 1/2	3	3 1/2	4
E	12.874	14.764	14.764	16.732
F	10.630	12.008	12.008	13.386
Ø H	0.394	0.394	0.394	0.472
Ø J	7.283	8.858	8.858	10.157
Ø K	4.094	4.528	4.921	5.669
Ø K2	2.837/2.839	3.434/3.437	3.931/3.933	4.427/4.429
Ø K3	3.856/3.858	4.132/4.133	4.002/4.004	4.747/4.748
M	2.461	3.346	3.346	3.937
N	5.276	5.945	5.945	6.654
O	0.748	1.181	1.000	1.000
O1	0.787	0.315	0.252	0.295
R	4.331	5.118	5.118	6.102
U 1)	0.807	0.891	0.946	0.969
Ø AD	5.709	7.283	9.000	10.866
AZ x Ø DB	5x 0.433	4x 0.709	6x 0.689	6x 0.807
AP	-	-	5.551	6.299
KB	1.024	0.787	0.874	0.874
LK	4.724	5.709	7.559	9.000
SW	3.346	4.331	4.331	4.724
Weight (lbs)	69.3	127.6	127.6	193.6

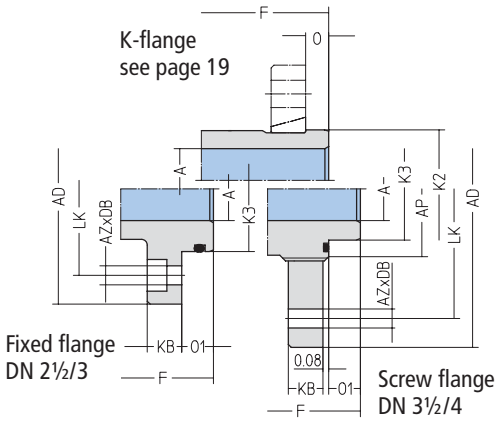
1) approx. engagement depth (wrench tight)



DP2 DN 2 1/2 - 4

for two way flow of a medium designed for non-rotating inner pipe





DN	2 1/2	3	3 1/2	4
Type	DP 265 R 31-U	DP 275 R 31-U	DP 280 R 31-U	DP 2100 R 31-U
Order-No.	1112404-031-U	1112579-031-U	1112454-031-U	1112554-031-U
Type	DP 265 L 31-U	DP 275 L 31-U	DP 280 L 31-U	DP 2100 L 31-U
Order-No.	1112405-031-U	1112580-031-U	1112455-031-U	1112555-031-U
Type	DP 265 K 01-U	DP 275 K 01-U	DP 280 K 01-U	DP 2100 K 01-U
Order-No.	1112406-001-U	1112581-001-U	1112456-001-U	1112556-001-U
Type	DP 265 F 01-U	DP 275 F 01-U	DP 280 F 01-U	DP 2100 F 01-U
Order-No.	1112407-001-U	1112582-001-U	1112457-001-U	1112557-001-U

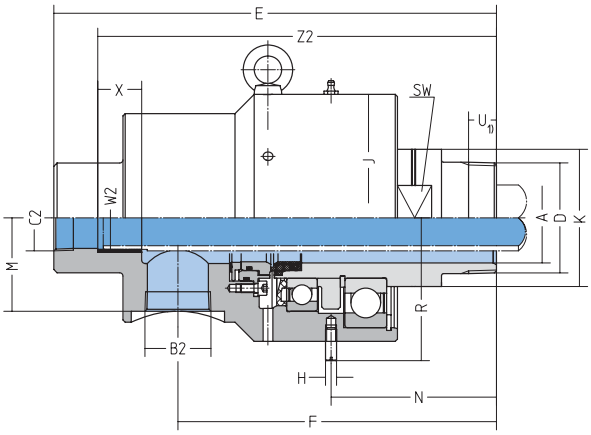
Ø A	2.559	2.835	3.228	3.858
B2 (NPT)	1 1/2	2	2	2 1/2
C2 (NPSC)	1 1/2	2	2	2 1/2
D (NPT)	2 1/2	3	3 1/2	4
E	13.583	15.866	15.866	17.520
F	10.039	11.417	11.417	12.598
Ø H	0.394	0.394	0.394	0.472
Ø J	7.283	8.858	8.858	10.157
Ø K	4.094	4.528	4.921	5.669
Ø K2	2.837/2.839	3.434/3.437	3.931/3.933	4.427/4.429
Ø K3	3.856/3.858	4.132/4.133	4.002/4.004	4.747/4.748
M	2.461	3.346	3.346	3.937
N	5.276	5.945	5.945	6.654
O	0.748	1.181	1.000	1.000
O1	0,787	0.315	0.252	0.295
R	4.331	5.118	5.118	6.102
U 1)	0.807	0.891	0.946	0.969
V 1)	0.551	0.567	0.567	0.807
W (NPSC)	1 1/2	2	2	2 1/2
Z1 1)	11.575	13.283	13.283	14.980
Ø AD	5.709	7.283	9.000	10.866
AZ x Ø DB	5x 0.433	4x 0.709	6x 0.689	6x 0.807
AP	-	-	5.551	6.299
KB	1.024	0.787	0.874	0.874
LK	4.724	5.709	7.559	9.000
SW	3.346	4.331	4.331	4.724
Weight (lbs)	61.6	114.4	114.4	165.0

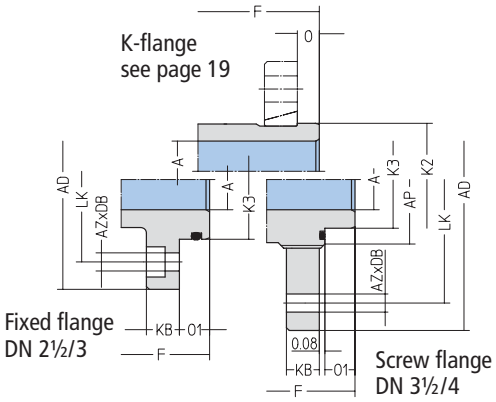
1) approx. engagement depth (wrench tight)



DPR2 DN 2 1/2 - 4

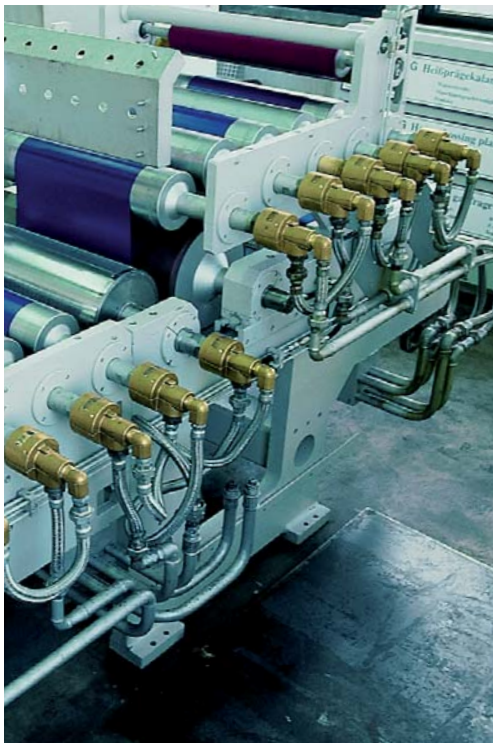
for two way flow of a medium designed for rotating inner pipe



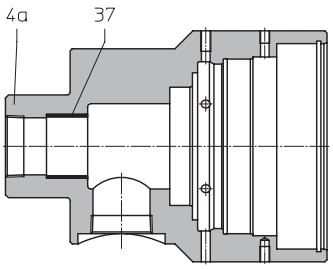


DN	2 1/2	3	3 1/2	4
Type Order-No.	DPR 265 R 31-U 1112408-031-U	DPR 275 R 31-U 1112583-031-U	DPR 280 R 31-U 1112458-031-U	DPR 2100 R 31-U 1112558-031-U
Type Order-No.	DPR 265 L 31-U 1112409-031-U	DPR 275 L 31-U 1112584-031-U	DPR 280 L 31-U 1112459-031-U	DPR 2100 L 31-U 1112559-031-U
Type Order-No.	DPR 265 K 01-U 1112410-001-U	DPR 275 K 01-U 1112585-001-U	DPR 280 K 01-U 1112460-001-U	DPR 2100 K 01-U 1112560-001-U
Type Order-No.	DPR 265 F 01-U 1112411-001-U	DPR 275 F 01-U 1112586-001-U	DPR 280 F 01-U 1112461-001-U	DPR 2100 F 01-U 1112561-001-U
Ø A	2.559	2.835	3.228	3.858
B2 (NPT)	1 1/2	2	2	2 1/2
C2 (NPT)	1 1/2	2	2	2 1/2
D (NPT)	2 1/2	3	3 1/2	4
E	13.583	15.866	15.866	17.520
F	10.039	11.417	11.417	12.598
Ø H	0.394	0.394	0.394	0.472
Ø J	7.283	8.858	8.858	10.157
Ø K	4.094	4.528	4.921	5.669
Ø K2	2.837/2.839	3.434/3.437	3.931/3.933	4.427/4.429
Ø K3	3.856/3.858	4.132/4.133	4.002/4.004	4.747/4.748
M	2.461	3.346	3.346	3.937
N	5.276	5.945	5.945	6.654
O	0.748	1.181	1.000	1.000
O1	0.787	0.315	0.252	0.295
R	4.331	5.118	5.118	6.102
U 1)	0.807	0.891	0.946	0.969
Ø W2 (bushing)	1.747/1.749	2.249/2.251	2.249/2.251	2.748/2.750
X	1.500	1.500	1.500	2.000
Z2	12.524	14.217	14.217	16.173
Ø AD	5.709	7.283	9.000	10.866
AZ x Ø DB	5x 0.433	4x 0.709	6x 0.689	6x 0.807
AP	-	-	5.551	6.299
KB	1.024	0.787	0.874	0.874
LK	4.724	5.709	7.559	9.000
SW	3.346	4.331	4.331	4.724
Weight (lbs)	61.6	114.4	114.4	165.0

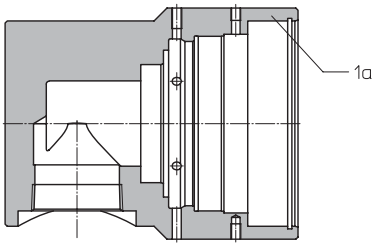
1) approx. engagement depth (wrench tight)



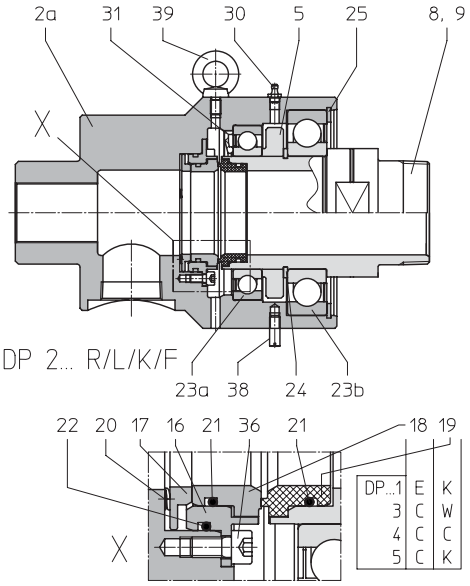
Spare Parts for types DP1, 2, R2 – DN 2 1/2 - 4



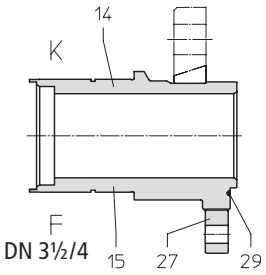
DPR 2... R/L/K/F



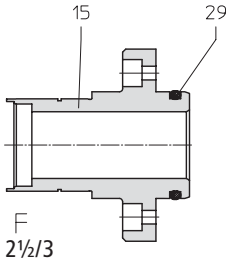
DP 1... R/L/K/F



DP 2... R/L/K/F

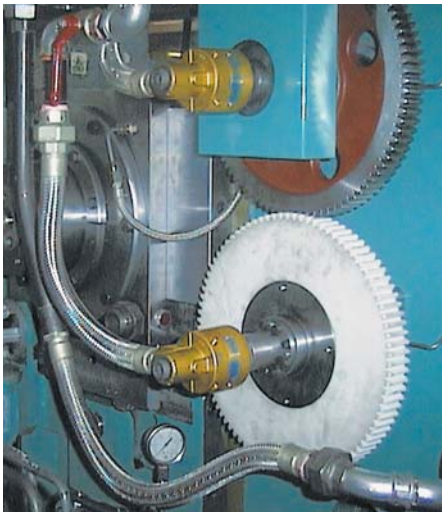


DN 3½/4



DN 2½/3

	DN	2 1/2	3	3 1/2	4
1a	Housing 1 N	1112445	1112495	1112495	1112545
2a	Housing 2 N	1112446-061	1112496-061	1112496-061	1112546-061
4a	Housing R2 N	1112447-062	1112497-062	1112497-062	1112547-062
5	Spacer	1112419	1112469	1112469	1112519
8	Rotor R N	1112430	1112605	1112480	1112530
9	Rotor L N	1112431	1112606	1112481	1112531
14	Rotor K	1112436-060	1112611	1112486-060	1112536-060
15	Rotor F	1112437	1112612	1112487	1112537
16	Fixing ring	1112415	1112465	1112465	1112515
17	Thrust collar	1112417	1112467	1112467	1112517
18E	Mechanical Seal E	1112438-001	1112488-001	1112488-001	1112539-001
18C	Mechanical Seal C	1112438-002	1112488-002	1112488-002	1112539-002
19K	Counter Face K	3511385-001	3511386-001	3511386-001	3511388-001
19W	Counter Face W	3511385-002	3511386-002	3511386-002	3511388-002
19C	Counter Face C	1112438-002	1112488-002	1112488-002	1112539-002
20	Compression spring	3511550	3511551	3511551	3511551
21	O-Ring	3511708	3512553	3512553	3511828
22	O-Ring	3512553	3511828	3511828	3511815-012
23a	Ball Bearing 1	3510263-006	3510103-006	3510103-006	3510144-006
23b	Ball Bearing 2	3510007-006	3510208	3510208	3510145-006
24	Circlip	3501005	3501006	3501006	3501031
25	Circlip	3501253	3501238	3501238	3501247
27	Screw Flange	-	-	1190472-009	1190473-014
29	O-Ring	3511694	3511901	3511828	3511716
30	Lubric.nipple	3500913	3500913	3500913	3500913
31*	Shaft Seal	3512358-001	3512319-001	3512319-001	3512334-001
36	Cyl.screw	3500354-070	3500354-070	3500354-070	3500354-070
37	Slide Bearing	3510546	3510549	3510549	3510548
38	Stud bolt	3500678	3500678	3500678	3500587
39	Eye bolt	3500686	3500686	3500686	3500686

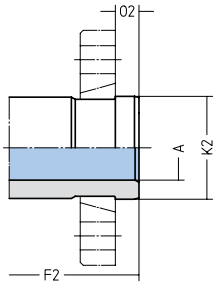




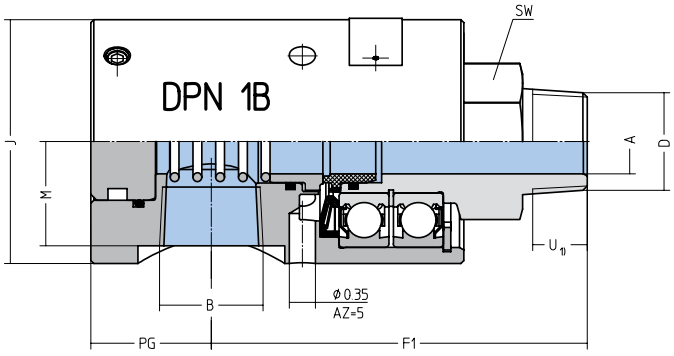
*Pos.31: optional additional seal for bearing. Please specify exact type designation when inquiring or ordering.

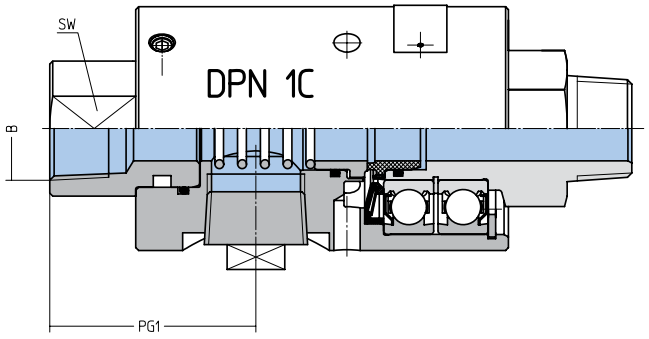
DPN1 DN 3/8 - 2

for one way flow of a medium



Flanges
see page 19



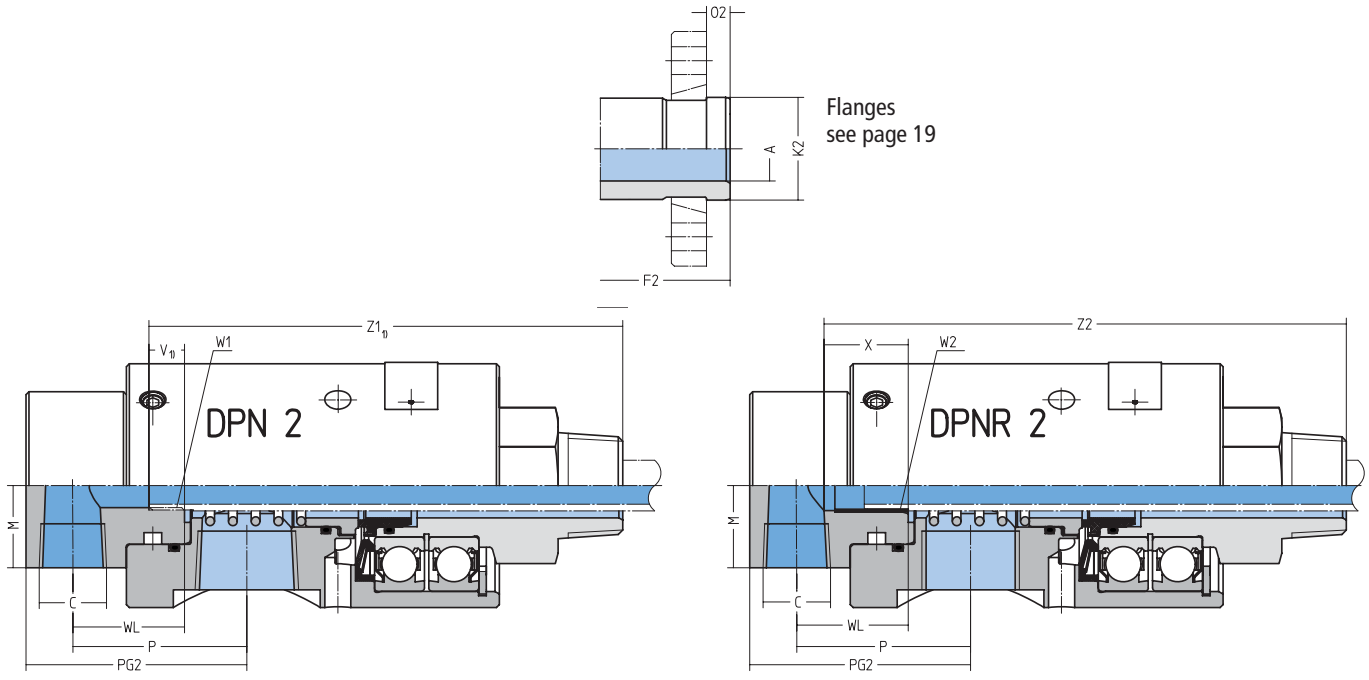


DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	DPN 1B10 R 31 1113050-031	DPN 1B15 R 31 1113100-031	DPN 1B20 R 31 1113150-031	DPN 1B25 R 31 1113200-031	DPN 1B32 R 31 1113250-031	DPN 1B40 R 31 1113300-031	DPN 1B50 R 31 1113350-031
Type Order-No.	DPN 1B10 L 31 1113051-031	DPN 1B15 L 31 1113101-031	DPN 1B20 L 31 1113151-031	DPN 1B25 L 31 1113201-031	DPN 1B32 L 31 1113251-031	DPN 1B40 L 31 1113301-031	DPN 1B50 L 31 1113351-031
Type Order-No.						DPN 1B40 K 01 1113302-001	DPN 1B50 K 01 1113352-001
Type Order-No.	DPN 1C10 R 31 1113053-031	DPN 1C15 R 31 1113103-031	DPN 1C20 R 31 1113153-031	DPN 1C25 R 31 1113203-031	DPN 1C32 R 31 1113253-031	DPN 1C40 R 31 1113303-031	DPN 1C50 R 31 1113353-031
Type Order-No.	DPN 1C10 L 31 1113054-031	DPN 1C15 L 31 1113104-031	DPN 1C20 L 31 1113154-031	DPN 1C25 L 31 1113204-031	DPN 1C32 L 31 1113254-031	DPN 1C40 3 51 1113304-031	DPN 1C50 L 31 1113354-031
Type Order-No.						DPN 1C40 K 01 1113305-001	DPN 1C50 K 01 1113355-001
Ø A	0.374	0.512	0.689	0.866	1.181	1.378	1.850
B (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
D (NPT)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
F1	3.465	3.858	4.409	5.039	6.024	6.929	7.520
F2						6.457	7.913
Ø J	2.126	2.283	2.913	3.268	3.937	4.331	5.394
Ø K2						1.967/1.969	2.557/2.559
M	0.945	0.984	1.220	1.417	1.654	1.772	2.244
O2						0.394	0.394
U 1)	0.323	0.427	0.446	0.530	0.550	0.550	0.567
PG	1.181	0.984	1.339	1.614	2.126	2.205	2.480
PG1	1.772	1.969	2.362	2.756	3.150	3.543	3.937
SW	0.945	1.181	1.417	1.811	2.165	2.362	2.953
Weight (lbs)	3.1	3.5	6.6	11.0	16.7	25.3	37.4

1) approx. engagement depth (wrench tight)

DPN2, DPNR2 DN 3/8 - 2

for two way flow of a medium
DPN2 for non-rotating inner pipe, DPNR2 for rotating inner pipe



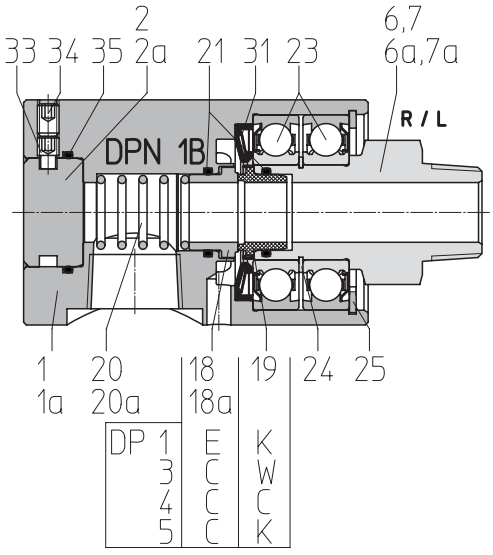
Flanges
see page 19

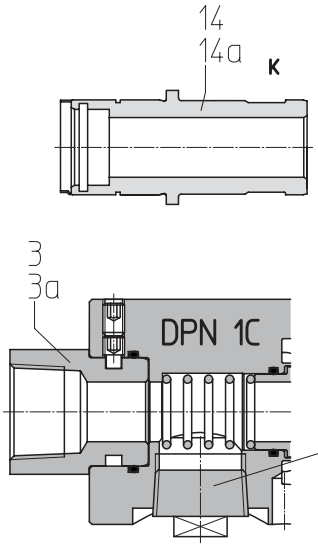
DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Type Order-No.	DPN 210 R 31 1113060-031	DPN 215 R 31-U 1113110-031-U	DPN 220 R 31-U 1113160-031-U	DPN 225 R 31-U 1113210-031-U	DPN 232 R 31-U 1113260-031-U	DPN 240 R 31-U 1113310-031-U	DPN 250 R 31-U 1113360-031-U
Type Order-No.	DPN 210 L 31 1113061-031	DPN 215 L 31-U 1113111-031-U	DPN 220 L 31-U 1113161-031-U	DPN 225 L 31-U 1113211-031-U	DPN 232 L 31-U 1113261-031-U	DPN 240 L 31-U 1113311-031-U	DPN 250 L 31-U 1113361-031-U
Type Order-No.						DPN 240 K 01-U 1113312-001-U	DPN 250 K 01-U 1113362-001-U
Type Order-No.		DPNR 215 R 31-U 1113113-031-U	DPNR 220 R 31-U 1113163-031-U	DPNR 225 R 31-U 1113213-031-U	DPNR 232 R 31-U 1113263-031-U	DPNR 240 R 31-U 1113313-031-U	DPNR 250 R 31-U 1113363-031-U
Type Order-No.		DPNR 215 L 31-U 1113114-031-U	DPNR 220 L 31-U 1113164-031-U	DPNR 225 L 31-U 1113214-031-U	DPNR 232 L 31-U 1113264-031-U	DPNR 240 L 31-U 1113314-031-U	DPNR 250 L 31-U 1113364-031-U
Type Order-No.						DPNR 240 K 01-U 1113315-001-U	DPNR 250 K 01-U 1113365-001-U

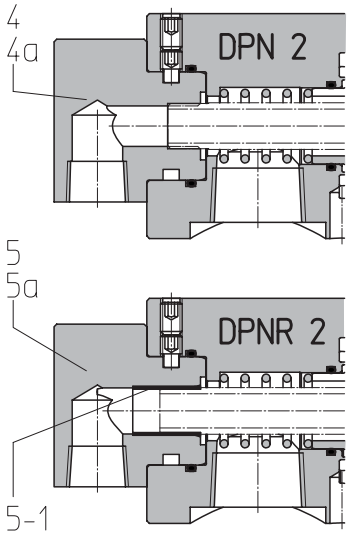
C (NPT)	1/4	3/8	1/2	1/2	3/4	3/4	1 1/4
M	0.709	0.787	1.024	1.102	1.378	1.496	1.772
P	1.673	1.516	2.008	2.323	2.913	3.228	3.858
V 1)	0.315	0.217	0.311	0.323	0.427	0.446	0.530
W1 (NPT)	M 6x1	1/8	1/4	3/8	1/2	3/4	1
W2 (bushing)		0.370/0.371	0.495/0.496	0.619/0.621	0.744/0.746	0.994/0.996	1.243/1.245
X		0.768	1.004	1.122	1.378	1.457	1.535
Z1 1)	4.409	4.532	5.354	6.197	7.504	8.682	9.593
Z2		5.079	6.043	6.988	8.465	9.685	10.591
PG2	2.126	1.969	2.638	2.953	3.622	3.937	4.921
WL	1.063	1.063	1.378	1.496	1.850	1.929	2.303
Weight (lbs)	3.3	4.0	8.1	12.5	18.9	29.7	44.0

1) approx. engagement depth (wrench tight)

Spare Parts for types DPN1, 2, R2 – DN 3/8 - 2





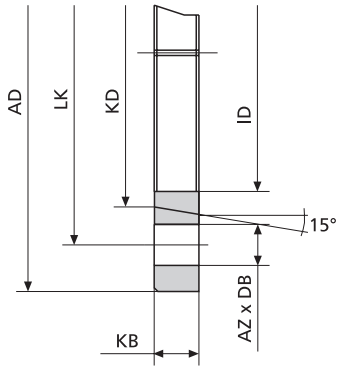


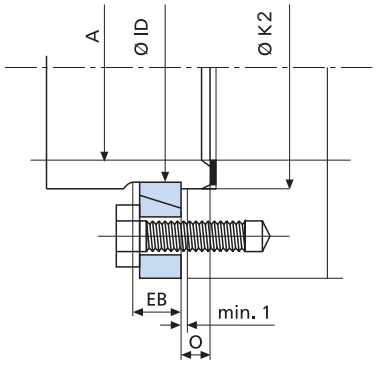
	DN	3/8	1/2	3/4	1	1 1/4	1 1/2	2
1	Housing N	1112092-245	1112142-245	1112192-245	1112242-245	1112292-245	1112342-245	1112392-245
1 a	Housing N	1112092-246	1112142-246	1112192-246	1112242-246	1112292-246	1112342-246	1112392-246
2	Cover	1112095-208	1112145-208	1112195-208	1112245-208	1112295-208	1112345-208	1112395-208
2 a	Cover	1112095-206	1112145-206	1112195-206	1112245-206	1112295-206	1112345-206	1112395-206
3	Housing connection N	1112094-247	1112144-247	1112194-247	1112244-247	1112294-247	1112344-247	1112394-247
3 a	Housing connection N	1112094-248	1112144-248	1112194-248	1112244-248	1112294-248	1112344-248	1112394-248
4	Elbow P2 U	1112069-249	1112122-249	1112172-249	1112222-249	1112272-249	1112322-249	1112372-249
4 a	Elbow P2 U	1112069-250	1112122-250	1112172-250	1112222-250	1112272-250	1112322-250	1112372-250
5	Elbow PR2 U		1112123-251	1112173-251	1112223-251	1112273-251	1112323-251	1112373-251
5 a	Elbow PR2 U		1112123-252	1112173-252	1112223-252	1112273-252	1112323-252	1112373-252
5-1	Bushing		3510541	3510542	3510543	3510544	3510537	3510512
6	Rotor RN	1112080	1112130	1112180	1112230	1112280	1112330	1112380
6 a	Rotor RN	1112080-171	1112130-171	1112180-171	1112230-171	1112280-171	1112330-171	1112380-097
7	Rotor LN	1112081	1112131	1112181	1112231	1112281	1112331	1112381
7 a	Rotor LN	1112081-171	1112131-171	1112181-171	1112231-171	1112281-171	1112331-171	1112381-097
14	Rotor K						1112336	1112386
14 a	Rotor K						1112336-163	1112386-163
18	Mechanical seal E	1112088-001	1112138-001	1112188-001	1112238-001	1112288-001	1112338-001	1112388-001
18	Mechanical seal C	1112088-002	1112138-002	1112188-002	1112238-002	1112288-002	1112338-002	1112388-002
18 a	Mechanical seal C	1112088-159	1112138-159	1112188-077	1112238-081	1112288-159	1112338-159	1112388-159
19 K	Counter face K	3511391-001	3511392-001	3511393-001	3511394-001	3511395-001	3511396-001	3511397-001
19 W	Counter face W	3511391-002	3511392-002	3511393-002	3511394-002	3511395-002	3511396-002	3511397-002
19 C	Counter face C	1112088-002	1112138-002	1112188-002	1112238-002	1112288-002	1112338-002	1112388-002
20	Compression spring	3511661	3511662	3511663	3511664	3511665	3511666	3511667
20 a	Compression spring	3511661-001	3511662-001	3511663-001	3511664-001	3511665-001	3511666-001	3511667-001
21	O-ring	3511809	3511866	3511721	3511929	3511947	3511886	3511696
23	Ball bearing	3510200-008	3510079-008	3510097-008	3510148	3510086-008	3510087-008	3510090-008
24	Circlip	3501000-001	3501001-001	3501002-001	3501003-001	3501008-001	3501027	3501030-001
25	Circlip	3501220-001	3501219-001	3501222-001	3501223-001	3501205-001	3501241	3501246-001
26	Screw plug	3513598-001	3513599-001	3513600-001	3513601-001	3513602-001	3513603-001	3513604-001
31	Shaft seal	3512325-001	3512326-001	3512327-001	3512328-001	3512329-001	3512330-001	3512331-001
33	Set screw	3500576-002	3500576-002	3500516-002	3500516-002	3500534-002	3500534-002	3500586-002
34	Set screw	3502163-002	3502163-002	3500591-002	3500591-002	3500533-002	3500533-002	3500592-002
35	O-ring	3511852	3512521	3511754	3511713	3511942	3512540	3512503

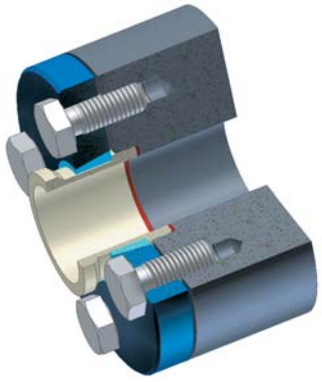
Execution "a" for variant -100.

Please specifiy exact designation when inquiring or placing orders!

Journal Flanges for K Rotor Connection







DN	K-flange	Order-No.	Inner ring	Order-No.	Flat pack. Order-No.	Ø A	Ø AD	Ø LK	AZ x Ø DB	Ø KD	Ø ID	KB	Ø K2 Pilot hole	O	EB
1 1/2	KF 40-0	1190435	IR 40-0	1190405	3512235	1.378	4.134	3.150	4x 0.433	2.087	1.889/ 1.891	0.591	1.969/ 1.970	0.394	0.630
2	KF 50-0	1190436	IR50-0	1190406	3512236	1.850	5.118	3.937	4x 0.551	2.717	2.480/ 2.482	0.591	2.559/ 2.561	0.394	0.630
2 1/2	KF 65-700	1190437-700	IR 65-700	1190407-700	3512237-700	2.559	5.827	4.764	4x 0.571	3.504	2.742/ 2.744	1.024	2.841/ 2.843	0.748	1.102
3	KF 75-0	1190440	IR 75-0	1190420	1190191-058	2.835	7.992	6.752	5x 0.689	3.504	3.315/ 3.317	1.220	3.437/ 3.439	1.181	1.339
3 1/2	KF 80-700	1190438-700	IR 80-700	1190408-700	3512238-700	3.228	8.504	7.008	6x 0.689	4.291	3.799/ 3.803	1.260	3.937/ 3.939	1	1.378
4	KF 100-700	1190439-700	IR 100-700	1190409-700	3512239-700	3.858	8.976	7.520	6x 0.689	4.724	4.295/ 4.299	1.378	4.433/ 4.435	1	1.496

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