



Rotary joints

Rotary pressure joint is an assembly which secures sealing between inlet pipe and rotational cylinder thus providing heat transfer by media in or from the equipment's rotational element. Fluids that are commonly used for heat transfer are water, thermal oils, hydraulic oils, cooling fluids and vapor.

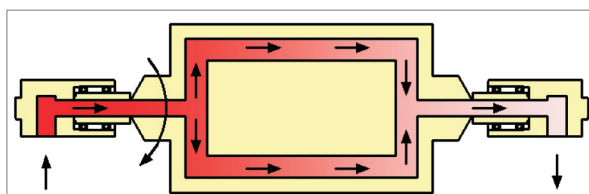
The right choice of mechanical seal is of major importance in order to reach the work of rotary pressure joint efficient, because in cases of mechanical seal malfunction, leakage occurs which reduces efficiency of entire cooling or warming process. Kroma Ltd delivers rotary pressure joints adjustable for single, as well as for dual flow.



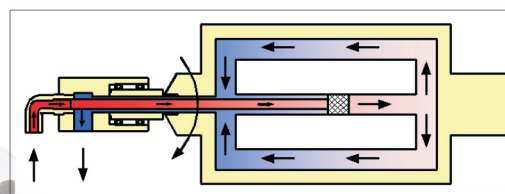
Application

Pulp and paper industry
Textile industry
Rubber production
Chemical and food industry

According to demand rotary pressure joints are adjustable for single, as well as for dual flow use.



Single flow



Dual flow

By sealing type and assembly type we have two groups of rotary joints:

1. Rotary joints with rolling bearings and mechanical sealing - UOPM and UOPD
2. Rotary joints with carbon slide bearings and carbon radial sealing - HTOPM and HTOPD

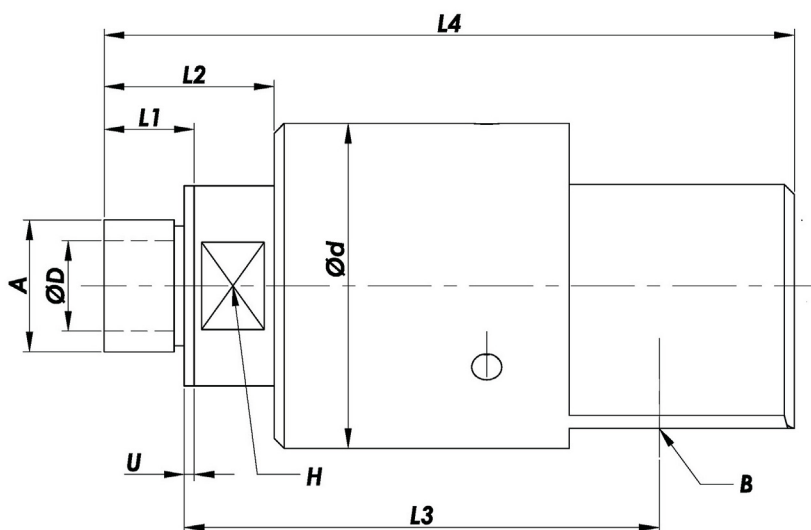
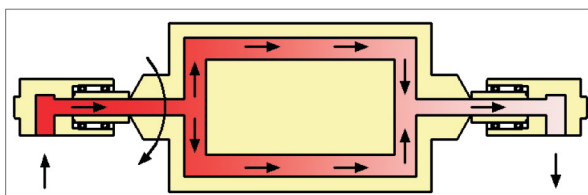
Application according to type and working conditions

TYPE OF ROTARY JOINT \ FLUID	WATER (temperature do 90°C)		STEAM, CONDENSATE, OIL (temperature over 140°C)	COOLING LIQUIDS, HYDRAULIC OILS (temperature up to 90°C)
	CLEAN	WITH ABRASIVES		
UOPM A	X			X
UOPM B	X			X
UOPM C		X		
UOPD A	X			X
UOPD B	X			X
UOPD C		X		
HTOPM			X	
HTOPD			X	

Rotary pressure joint single flow

UOPM

Rotary pressure joints type UOPM are used in cases where we have a fluid entering on one end of the cylinder, and exiting on the other. In this instance we have a single flow through the rotary pressure joint. Systems such as these use two rotary pressure joints, one in the entry point in the system, and one in the exit point.



Working conditions

- p = 40 bar
- t = 120 °C
- ω = up to 3500 rpm

Materials

UOPM A - Carbon-graphite/tungsten carbide
UOPM B - Carbon-graphite/stainless steel
UOPM C - SiC/SiC

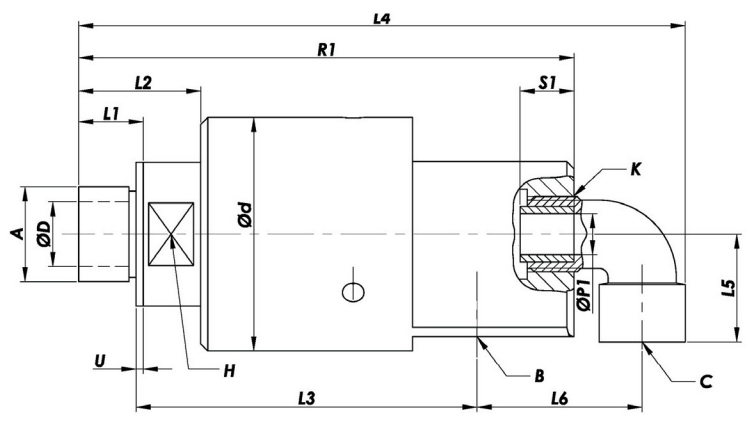
Type			A	B	D	d	L ₁	L ₂	L ₃	L ₄	H	U
UOPM A01	UOPM B01	UOPM C01	G ^{3/8} " RH	G ^{3/8} "	10	45	16	26	64	100	22	1,5
UOPM A02	UOPM B02	UOPM C02	G ^{3/8} " LH	G ^{3/8} "	10	45	16	26	64	100	22	1,5
UOPM A03	UOPM B03	UOPM C03	G ^{1/2} " RH	G ^{1/2} "	13	57	19	35	79	119	30	1,5
UOPM A04	UOPM B04	UOPM C04	G ^{1/2} " LH	G ^{1/2} "	13	57	19	35	79	119	30	1,5
UOPM A05	UOPM B05	UOPM C05	G ^{3/4} " RH	G ^{3/4} "	18	73	19	34	95	136	36	2,0
UOPM A06	UOPM B06	UOPM C06	G ^{3/4} " LH	G ^{3/4} "	18	73	19	34	95	136	36	2,0
UOPM A07	UOPM B07	UOPM C07	G 1" RH	G 1"	25	83	22	42	108	163	36	2,0
UOPM A08	UOPM B08	UOPM C08	G 1" LH	G 1"	25	83	22	42	108	163	36	2,0
UOPM A09	UOPM B09	UOPM C09	G 1 ^{1/4} " RH	G 1 ^{1/4} "	32	91	28	54	119	189	46	2,0
UOPM A10	UOPM B10	UOPM C10	G 1 ^{1/4} " LH	G 1 ^{1/4} "	32	91	28	54	119	189	46	2,0
UOPM A11	UOPM B11	UOPM C11	G 1 ^{1/2} " RH	G 1 ^{1/2} "	38	108	29	72	149	228	55	2,0
UOPM A12	UOPM B12	UOPM C12	G 1 ^{1/2} " LH	G 1 ^{1/2} "	38	108	29	72	149	228	55	2,0
UOPM A13	UOPM B13	UOPM C13	G 2" RH	G 2"	48	118	29	65	165	248	60	2,5
UOPM A14	UOPM B14	UOPM C14	G 2" LH	G 2"	48	118	29	65	165	248	60	2,5

na zahtev kupca isporučujemo obrtne priključke i van navedenog opsega

Rotary pressure joint with dual flow

UOPB

Rotary pressure joint type UOPB is used when syphon internal pipe is rotational. Internal pipe rotates in the slide bearing of the casing.



Working conditions

- p = 40 bara
- t = 120 °C
- ω = 20 o/min

Materials

- UOPB A - carbon-graphite/tungsten carbide
- UOPB B - carbon-graphite/stainless steel
- UOPB C - SiC/SiC

Tip i oznaka obrtnog priključka	A	B	C	D	d	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	H	K	P1	R1	S1	U
UOPB A01 UOPB B01 UOPB C01	G 3/8" RH	G 3/8"	G 1/4"	10	45	16	26	64	124	18	36	22	G 1/4"	5,8	103	20	1,5
UOPB A02 UOPB B02 UOPB C02	G 3/8" LH	G 3/8"	G 1/4"	10	45	16	26	64	124	18	36	22	G 1/4"	5,8	103	20	1,5
UOPB A03 UOPB B03 UOPB C03	G 1/2" RH	G 1/2"	G 3/8"	13	57	19	35	79	147	18	40	30	G 3/8"	9,8	124	30	1,5
UOPB A04 UOPB B04 UOPB C04	G 1/2" LH	G 1/2"	G 3/8"	13	57	19	35	79	147	18	40	30	G 3/8"	9,8	124	30	1,5
UOPB A05 UOPB B05 UOPB C05	G 3/4" RH	G 3/4"	G 1/2"	18	73	19	34	95	171	26	46	36	G 1/2"	12,8	143	32	2,0
UOPB A06 UOPB B06 UOPB C06	G 3/4" LH	G 3/4"	G 1/2"	18	73	19	34	95	171	26	46	36	G 1/2"	12,8	143	32	2,0
UOPB A07 UOPB B07 UOPB C07	G 1" RH	G 1"	G 1/2"	25	83	22	42	108	200	28	59	36	G 3/4"	15,8	171	35	2,0
UOPB A08 UOPB B08 UOPB C08	G 1" LH	G 1"	G 1/2"	25	83	22	42	108	200	28	59	36	G 3/4"	15,8	171	35	2,0
UOPB A09 UOPB B09 UOPB C09	G 1 1/4" RH	G 1 1/4"	G 3/4"	32	91	28	54	119	234	35	72	46	G 1"	21,8	196	40	2,0
UOPB A10 UOPB B10 UOPB C10	G 1 1/4" LH	G 1 1/4"	G 3/4"	32	91	28	54	119	234	35	72	46	G 1"	21,8	196	40	2,0
UOPB A11 UOPB B11 UOPB C11	G 1 1/2" RH	G 1 1/2"	G 1"	38	108	29	72	149	270	38	76	55	G 1 1/4"	25,8	238	44	2,0
UOPB A12 UOPB B12 UOPB C12	G 1 1/2" LH	G 1 1/2"	G 1"	38	108	29	72	149	270	38	76	55	G 1 1/4"	25,8	238	44	2,0
UOPB A13 UOPB B13 UOPB C13	G 2" RH	G 2"	G 1 1/4"	48	118	29	65	165	312	45	96	60	G 1 1/4"	32,1	253	50	2,5
UOPB A14 UOPB B14 UOPB C14	G 2" LH	G 2"	G 1 1/4"	48	118	29	65	165	312	45	96	60	G 1 1/4"	32,1	253	50	2,5

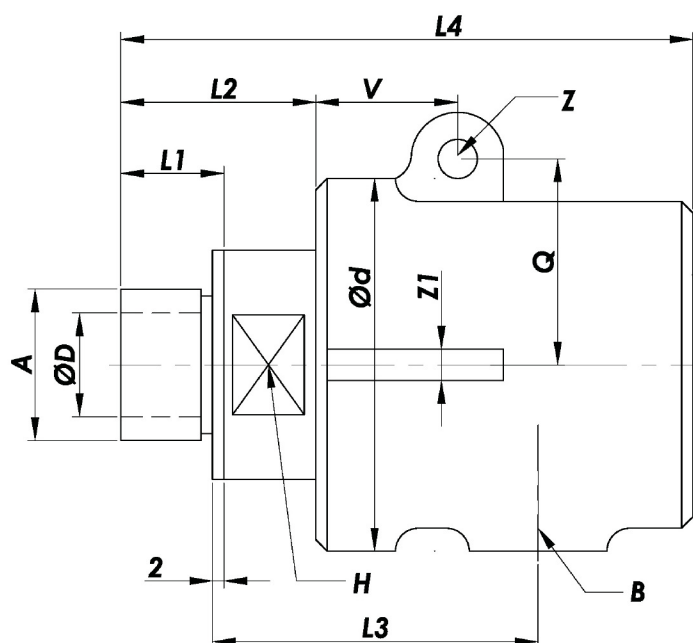
*napomena: RH=desni navoj, LH=levi navoj

na zahtev kupca isporučujemo obrtne priključke i van navedenog opsega

Rotary pressure joint for high temperature application with single flow

HTOPM

Rotary pressure joint type HTOPM is a assembly that enables the supply of fluid form intake pipe to rotational equipment. The H sign stands for "hot", so these rotary pressure joints are suitable for sealing steam, hot water or oil etc. The assembly does not require additional lubrication or sealing, it's easily mounted and can be replaced as a separate unit. HTOPM is designed to compensate misalignments caused by overheating.



Working conditions

- p = 10 bar
- t = 300 °C
- ω = up to 400 rpm

Materials

In standard delivery the metal parts are made from modular castings. If the working conditions require, we deliver rotary joints made from stainless steel or alloys.

The material of the slide bearings and the sealing rings is technical carbon-graphite in the quality that is selected according to the working conditions.

Tip	A	B	D	d	L ₁	L ₂	L ₃	L ₄	H**	V	Q	Z	Z1
OP05M	G 3/4" RH	G 3/4"	18	87	19	48	109	155	27	37	49	12	13
OP06M	G 3/4" LH	G 3/4"	18	87	19	48	109	155	27	37	49	12	13
OP07M	G 1" RH	G 1"	25,4	97	22	60	129	184	32	38	54	13	13
OP08M	G 1" LH	G 1"	25,4	97	22	60	129	184	32	38	54	13	13
OP09M	G 1 1/4" RH	G 1 1/4"	32	112	25,4	65	140	206	41	42	60	13,5	13
OP10M	G 1 1/4" LH	G 1 1/4"	32	112	25,4	65	140	206	41	42	60	13,5	13
OP11M	G 1 1/2" RH	G 1 1/2"	38	136	28,5	62	153	230	46	55	73	16	19
OP12M	G 1 1/2" LH	G 1 1/2"	38	136	28,5	62	153	230	46	55	73	16	19
OP13M	G 2" RH	G 2"	49	155	30	68	168	252	60	62	87	16	25,4
OP14M	G 2" LH	G 2"	49	155	30	68	168	252	60	62	87	16	25,4

napomene: *RH=desni navoj, LH=levi navoj

**dva poravnanja

na zahtev kupca isporučujemo obrtne priključke i van navedenog opsega

Rotary pressure joint for high temperature application with dual flow

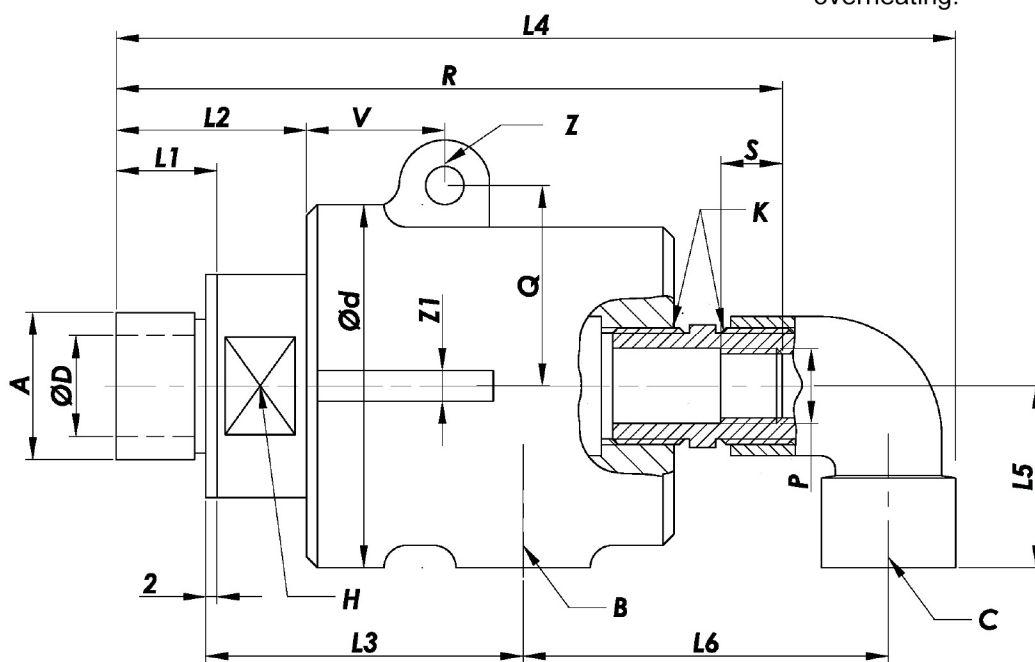
HTOPD

Working conditions

- p = 10 bar
- t = 300 °C
- ω = 400 o/min

Description

Rotary pressure joint type HTOPD is a assembly that enables the supply of fluid form intake pipe to rotational equipment. The H sign stands for "hot", so these rotary pressure joints are suitable for sealing steam, hot water or oil etc. The assembly does not require additional lubrication or sealing, it's easily mounted and can be replaced as a separate unit. HTOPD is designed to compensate misalignments caused by overheating.



Tip	A	B	C	D	d	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	H	K	P	R	S	V	Q	Z	Z1
OP05D	G 3/4" RH	G 3/4"	G 1/2"	18	87	19	48	109	220	51	75	27	R1"	G 1/4"	181	12	37	49	12	13
OP06D	G 3/4" LH	G 3/4"	G 1/2"	18	87	19	48	109	220	51	75	27	R1"	G 1/4"	181	12	37	49	12	13
OP07D	G 1" RH	G 1"	G 1/2"	25,4	97	22	60	129	251	54	82	32	R1"	G 3/8"	210	12	38	54	13	13
OP08D	G 1" LH	G 1"	G 1/2"	25,4	97	22	60	129	251	54	82	32	R1"	G 3/8"	210	12	38	54	13	13
OP09D	G 1 1/4" RH	G 1 1/4"	G 3/4"	32	112	25,4	65	140	298	66	107	41	G 1 1/2"	G 1/2"	238	14	42	60	13,5	13
OP10D	G 1 1/4" LH	G 1 1/4"	G 3/4"	32	112	25,4	65	140	298	66	107	41	G 1 1/2"	G 1/2"	238	14	42	60	13,5	13
OP11D	G 1 1/2" RH	G 1 1/2"	G 3/4"	38	136	28,5	62	153	322	79	114	46	G 1 1/2"	G 3/4"	262	16	55	73	16	19
OP12D	G 1 1/2" LH	G 1 1/2"	G 3/4"	38	136	28,5	62	153	322	79	114	46	G 1 1/2"	G 3/4"	262	16	55	73	16	19
OP13D	G 2" RH	G 2"	G 3/4"	49	155	30	68	168	345	87	121	60	G 1 1/2"	G 3/4"	284	16	62	87	16	25,4
OP14D	G 2" LH	G 2"	G 3/4"	49	155	30	68	168	345	87	121	60	G 1 1/2"	G 3/4"	284	16	62	87	16	25,4

napomene: *RH=desni navoj, LH=levi navoj

na zahtev kupca isporučujemo obrtno priključke i van navedenog opsega

Certificate CH11/1417.00

SGS

The management system of

KROMA Ltd

Antifašističke borbe 38, 11070 Beograd, Serbia



has been assessed and certified as meeting the requirements of

ISO 9001:2008

For the following activities

Manufacturing, assembly and service of mechanical seals
and sealing systems on rotating equipment and
manufacturing of technical carbon and graphite products.

This certificate is valid from 6 September 2011 until 5 September 2014
and remains valid subject to satisfactory surveillance audits
Recertification audit due before 24 August 2014
Issue 1. Certified since September 2011

This is a multi-site certification
Additional site details are listed on the subsequent page

Authorised by

S. Leri A. Kukul

SGS Société Générale de Surveillance SA Systems & Services Certification
Technoparkstrasse 1 8005 Zurich Switzerland
t +41 (0)44 445-16-80 f +41 (0)44 445-16-88 www.sgs.com

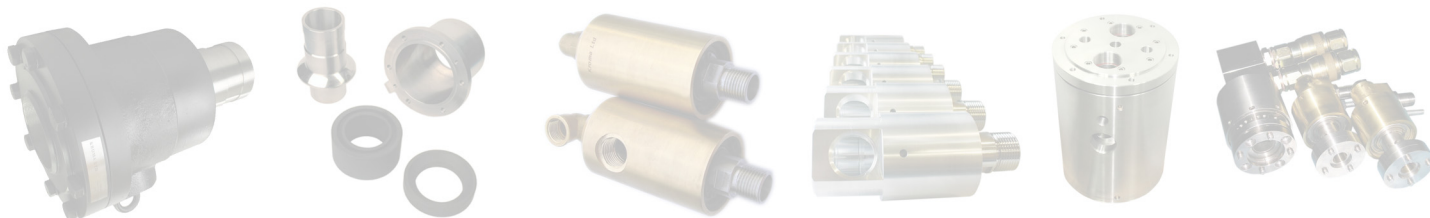


Accreditation No. SCESm 017

Page 1 of 2



This document is issued by the Company subject to its General Conditions of Certification Services accessible at www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. The authenticity of this document may be verified at http://www.sgs.com/clients/verified_clients.htm. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



KROMA Ltd

Antifašističke borbe 38, 11070 Beograd, Srbija

Tel: +381 11 313 2100 Fax: +381 11 311 5505

e-mail: info@kroma.co.rs

www.kroma.co.rs