

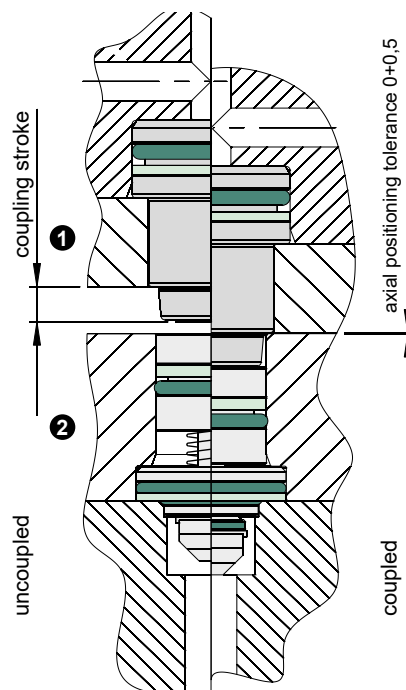
Coupling elements

built-in and threaded body designs, nominal diameters 3/5/8/12, „HT“ up to 200°C

NEW!

100-3

Issue: 08/2023



- ① Coupling nipple
- ② Coupling mechanism

Description:

Coupling elements of HYDROKOMP are made of stainless materials. This enables the elements to be used for all fluids and gases, that are not aggressive. Special designs e.g. for water steam or other media are available on request.

HYDROKOMP offers coupling elements for two different operating modes depressurized coupling or pressurized coupling. The elements for depressurized coupling can be coupled pressurized with up to 25 bar, if the specified volume flow is not exceeded. When using higher operating pressure there occurs a risk of damaging the soft seal in the check valve as the result of high flow velocities of the fluid. This means for coupling of air up to 10 bar there should be always used the coupling elements for depressurized coupling. This also applies when the coupling process is initiated pressurized. The elements which can be coupled pressurized may be coupled up to the maximum specified operating pressure on one side and / or on both sides.

In the HYDROKOMP „HT“-Variant, all couplings can be used at a temperature of up to 200°C.

Technical data:

Nominal diameter:	3	5	8	12
Operating pressure max. [bar]	350	500	300	250
Flow max./minute [l]	8	12	25	50
Operating temperature 90°C	Order-Nr. Standard			
Operating temperature 200°C	Order-Nr. additional „HT“			
Coupling stroke [mm]	4,5	4,5	7,0	10,0
Coupling force min. at 0 bar [N]	94	98	98	169
Axial coupling force pressurized per coupling position	$F[N]=9,4 \times p[\text{bar}]$	$F[N]=15,4 \times p[\text{bar}]$	$F[N]=31,4 \times p[\text{bar}]$	$F[N]=70,7 \times p[\text{bar}]$
Axial positioning tolerance [mm]	+ 0,5	+ 0,5	+ 0,5	+ 0,5
Radial positioning tolerance [mm]	± 0,3	± 0,3	± 0,3	± 0,5
Permitted angle tolerance	± 1°	± 1°	± 1°	± 1°

Built-in

Threaded body



Webcode: 010003

Operating conditions:

Coupling nipple and coupling mechanism must face coaxially each other before the coupling process.

The base plates of both elements must be guided about 2 to 3 mm before contact of the sealing surfaces within the radial positioning tolerance.

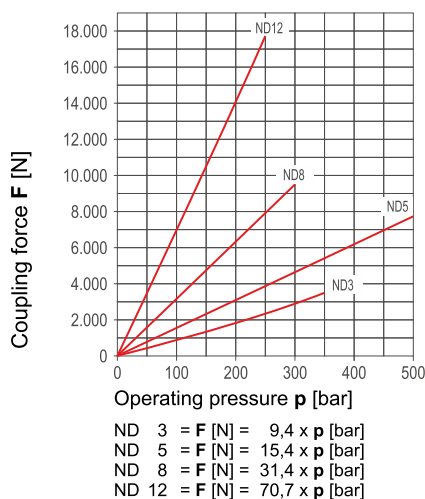
The coupling force between coupling nipple and coupling mechanism resulting from hydraulic pressure according to the formula has to be compensated positively from the outside.

The axially acting front seal areas must be protected from contamination. Good results can be achieved by rinsing and following blowing-off with compressed air. The sealing of the mechanism is done in the drill base of the mounting hole. The required surface quality in the drawing has to be kept.

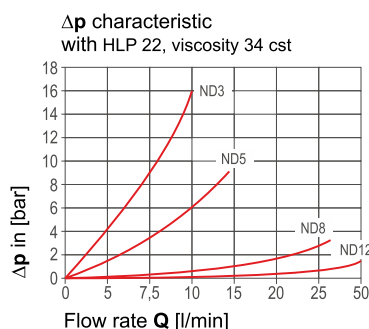
Advantages:

- ✘ Space-saving installation in individual receiving housing possible
- ✘ Transmission of liquid and gaseous mediums and vacuum
- ✘ Vacuum for ND3 and ND5 (ND8 and ND12 on request)
- ✘ Pressurized or depressurized coupling
- ✘ HT-Variant up to 200°C **New!**
- ✘ Special variants on request:
 - reduced spring force **Special!**
 - reduced coupling stroke
 - including cleaning nozzle
 - pressure relief valve included
 - suitable for usage with steam

Coupling force:



Flow resistance:



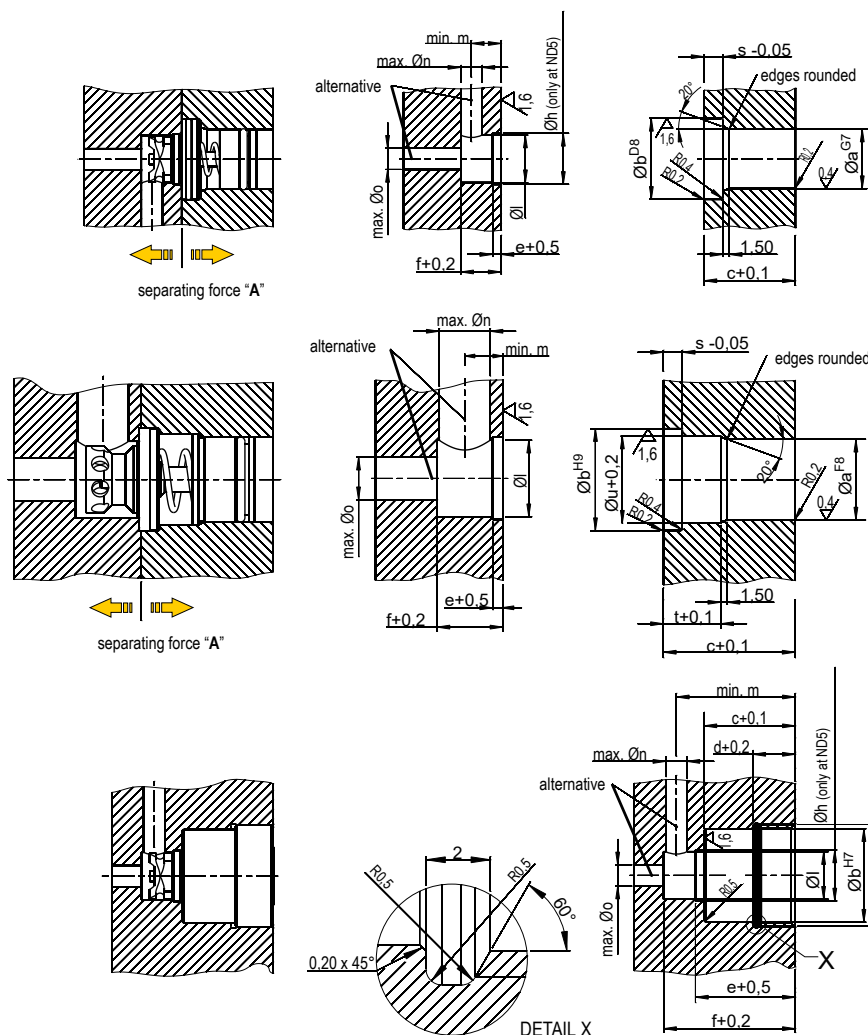
We also design and manufacture customized variants!



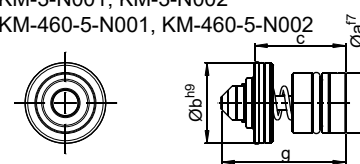
HYDROKOMP®

Hydraulische Komponenten GmbH

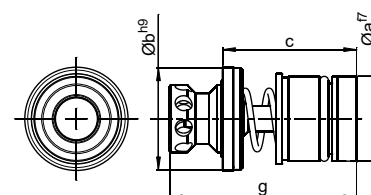
Technology that connects



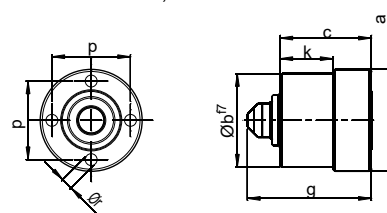
KM-3-N001, KM-3-N002
KM-460-5-N001, KM-460-5-N002



KM-460-8-N001, KM-460-8-N002
KM-12-N001, KM-12-N002



KM-3-EG001, KM-3-EG002
KM-460-5-EG001, KM-460-5-EG003
KM-460-5-EG008, KM-460-5-EG002
KM-460-8-EG001, KM-460-8-EG002
KM-12-EG001, KM-12-EG002



Technical data:

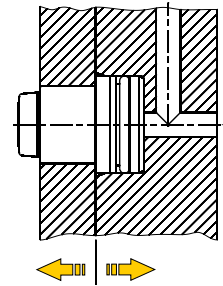
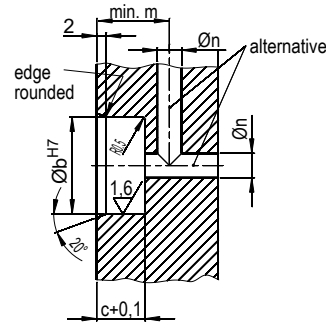
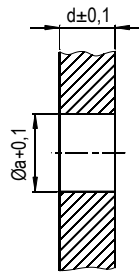
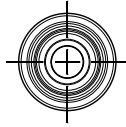
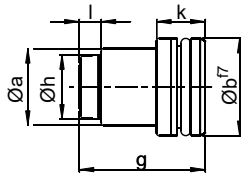
Nominal diameter:	3		5			8		12	
Type	built-in	thread. body	built-in	thread. body	thread. body	built-in	thread. body	built-in	thread. body
Separating force "A" [N]	15,4 x p [bar]	—	28,4 x p [bar]	—	—	45,2 x p [bar]	—	96,2 x p [bar]	—
Tightening torque [Nm]	—	15	—	20	25	—	32	—	41
a [mm]	11	M20x1,5	14	M24x1,5	M30x1,5	20	M36x1,5	30	M45x1,5
b [mm]	14	18	19	22	25	24	30	34,7	40
c [mm]	21,5	21,5	21,5	21,5	21,5	31	31	41	41
d [mm]	—	10	—	10	10	—	13	—	18
e [mm]	—	—	2	23,5	23,5	—	—	—	—
f [mm]	9,5	31	9,5	31	31	15,5	46,5	16,5	57,5
g [mm]	29	29	29	29	29	44	44	53,1	53,1
h +0,1 [mm]	—	—	12	12	12	—	—	—	—
k [mm]	—	13	—	12,5	12,5	—	19,5	—	24,6
l +0,1 [mm]	11,2	11,2	11,2	11,2	11,2	18	18	22	22
m [mm]	7	28	7	28	28	9	40	9	50
n [mm]	5	5	5	5	5	12	12	12	12
o [mm]	7	7	7	7	7	10	10	12	12
p [mm]	—	15,5	—	18,5	22	—	28	—	37
r [mm]	—	2x2,6	—	4x2,8	2x4,5	—	2x4,5	—	2x4,5
s [mm]	4,5	—	4,5	—	—	4,5	—	6	—
t [mm]	—	—	—	—	—	13,5	—	18,5	—
u [mm]	—	—	—	—	—	21,6	—	31,5	—
Order number:	KM-3...		KM-460-5... -			KM-460-8...		KM-12...	
depressurized coupling	...N001	...EG001	...N001	...EG008	...EG001	...N001	...EG001	...N001	...EG001
pressurized coupling	...N002	...EG002	...N002	...EG002	...EG003	...N002	...EG002	...N002	...EG002
Screw-in tool ⁽¹⁾	—	9000-057	—	9000-007	—	—	9000-058	—	9000-252
Mounting tool ⁽²⁾	9000-011	9000-011	9000-010	9000-010	9000-010	9000-013	9000-013	—	—
System seal, red ⁽³⁾	D-3-001		D-460-5-001			D-460-8-001		D-12-001	
System seal, yellow ⁽³⁾	D-3-002		D-460-5-002			D-460-8-002		D-12-002	

For the 200°C version, add "-HT" to the order number. For example: KM-460-5-EG008-HT.

⁽¹⁾Accessories: for screwing the coupling mechanisms into the receiving housing (see page 4)

⁽²⁾Accessories: for the replacement of the system seal at coupling mechanisms (see page 4)

⁽³⁾Spare parts: System seal red = depressurized coupling, yellow = pressurized coupling, only for replacement orders, packing unit = 10 pieces

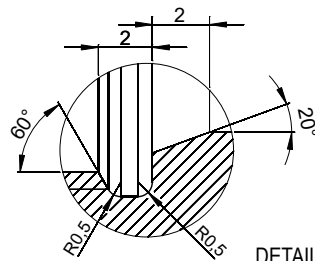
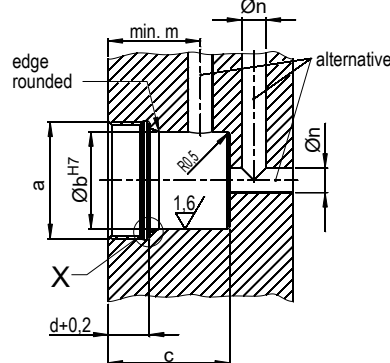
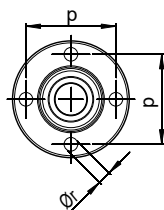
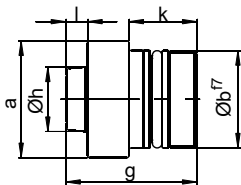


Built-in elements

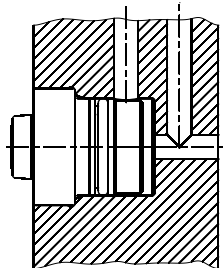
KN-3-S001K, KN-3-S002K,
KN-460-5-S001L, KN-460-5-S003L,
KN-460-5-S001K, KN-460-5-S003K,
KN-460-8-S001, KN-460-8-S002,
KN-12-S001, KN-12-S002

Threaded body elements

KN-3-EG001, KN-3-EG002,
KN-460-5-EG001, KN-460-5-EG004,
KN-460-5-EG002, KN-460-5-EG003,
KN-460-5-EG006,
KN-460-8-EG001, KN-460-8-EG002,
KN-12-EG001, KN-12-EG002



DETAIL X



Technical data:

Nominal diameter	3		5					8		12		
Type	built-in thread. body		built-in		built-in thread. body		thread. body thread. body ⁽⁴⁾		built-in thread. body		built-in thread. body	
Separating force "A" [N]	20,1 x p [bar]		31,5 x p [bar]		31,5 x p [bar]		— — —		45,2 x p [bar]		96,2 x p [bar]	
Tightening torque [Nm]	— 15		— —		20 25		25		— 25		— 41	
a [mm]	13 M20x1,5		16 16		M24x1,5 M28x1		M28x1		21 M30x1,5		31 M45x1,5	
b H7 [mm]	16 16		20 20		20 20		20		24 25		35 35	
c [mm]	10 23		10 16,5		25 25		34		9 26		12 32	
d [mm]	11,4 8,4		11,4 17		8,5 8,5		8,5		15 8,5		15,4 13,4	
g [mm]	25,9 25,9		26 38,1		27 27		37		31,4 29,9		37,4 40	
h [mm]	9,8 9,8		13,5 13,5		13,5 13,5		13,5		18,5 18,5		28,5 28,5	
k [mm]	10 13		10 16,5		14 14		19,5		9 14		12 16,6	
l [mm]	4,5 4,5		4,5 4,5		4,5 4,5		4,5		7,4 7,4		10 10	
m [mm]	15 19		15 22		19 19		19		15 22,5		21 31	
n [mm]	5 5		5 5		5 5		5		10 10		12 12	
p [mm]	— 15,5		— —		18,5 20		20		— 24		— 37	
r [mm]	— 2x2,6		— —		4x2,8 2x4,2		2x4,2		— 4x3,5		— 2x4,5	
Order number:	KN-3...		KN-460-5...					KN-460-8...		KN-12...		
depressurized coupling	...S001K	...EG001	...S001K	...S001L	...EG003	...EG004	...EG006	...S001	...EG001	...S001	...EG001	
pressurized coupling	...S002K	...EG002	...S003K	...S003L	...EG002	...EG001	—	...S002	...EG002	...S002	...EG002	
Screw-in tool ⁽⁵⁾	— 9000-057		— —		9000-007 9000-012		9000-012		— 9000-173		— 9000-252	

⁽⁴⁾ This coupling nipple has a pressure relief function in the uncoupled state. It may only be installed into the tank line. There, it prevents a pressure build-up at any faulty piston seals. The opening pressure is approx. 3 - 5 bar.

⁽⁵⁾ Accessories: for screwing the coupling nipples into the receiving housing (see page 4)



Mounting tools:

Coupling mechanisms of HYDROKOMP are designed in a way that the front system seal is replaceable.

The system seal wears in daily use by contamination and metal chips. If the coupling mechanism itself does not show any damage, the system seal can be replaced separately.

Order numbers for mounting tools and system seals are listed on page 2. For more information, see data sheet 100-5.

Webcode: 010005



Screw-in tools:

These tools are used to screw the coupling mechanisms and coupling nipples secure into the housing. The screw-in tool can be tightened for example by a cordless powered screwdriver or wrench.

There are different screw-in tools for coupling mechanisms and coupling nipples available. They differ in their pin assignment and various nominal diameters.

Order numbers for screw-in tools see charts on page 2 and 3.



Applications:

The built-in elements are particularly suitable for installation in plates of single and multiple coupling systems. Threaded body elements can be directly screwed into the fixture body, for example of a tool change system. There, they are ideal suitable as an interface for medium transfer.



Single coupling system with cleaning nozzle, (ND 5) depressurized coupling, housing according to customer's requirements

f.l. Coupling nipple plate:
coupling nipple threaded-body type

f.r. Coupling mechanism plate with cleaning nozzle: coupling mechanism built-in type



Single coupling system, (ND 3) depressurized coupling, housing according to customer's requirements

f.l. Coupling mechanism plate:
coupling mechanism threaded body type

f.r. Coupling nipple plate:
coupling nipple threaded body type



In these systems different coupling elements can be combined. Also rotary couplings can be integrated as well as additional functions e.g. hydro mechanical locking and cleaning nozzle etc.