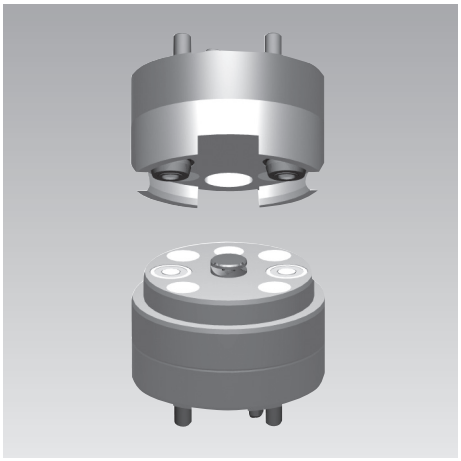
Multi-Coupling

depressurised coupling and coupling against system pressure max. operating pressure 300 bar



Coupling, two passages

Application

The multi-coupling for installation in plates is particularly suitable for use in modern machining centres and special machines (e.g. indexing machines). They are provided for line connection between machine table and pallet or pallet and fixture. The supplied fluids are pressurised oil, compressed air or vacuum.

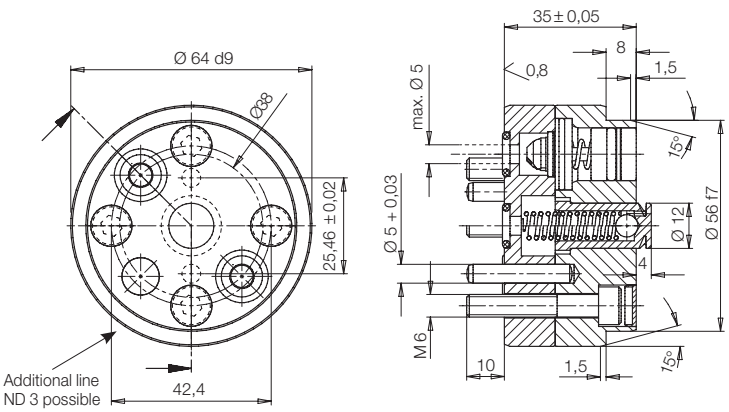
Due to their reduced mounting conditions, several coupling points can be realized by multi-couplings in a limited space. The coupling elements are usually integrated in the centre of the machine table / turntable / loading station / pallet.

Description

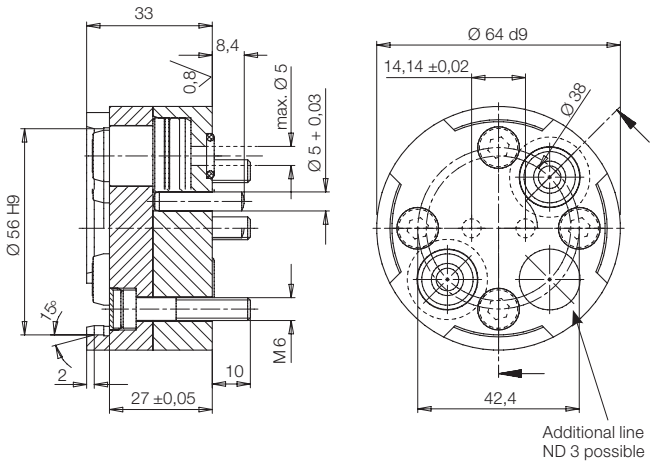
The multi-coupling is a modification of the threaded coupling elements as per data sheet F 9.428. It comprises of two components, the nipple carrier and the coupling carrier. The advantage of the coupling carrier is the fact that its face is flush in uncoupled condition, there-by it can be easily cleaned by means of the integrated blast air system.With these coupling elements coupling or uncoupling of lines can be effected against system pressure or depressurised.

The coupling and nipple carrier can be equipped or retrofitted by an additional line (ND 3) for the passage of air, water or hydraulic oil (individual coupling elements see data sheet F 9.428).

Coupling carrier



Nipple carrier



Important note

During coupling and uncoupling there are axial coupling forces due to the effective piston areas. These have to be compensated by corresponding measures as e.g. the weight of the pallet or the fixture or axial locking of the pallet.

Coupling force F[N] = 15.4 x p [bar] x n

n = Number of the pressurised lines in coupled condition

Special versions on request (see page 3)

Operating conditions, tolerances and other data see data sheet A 0.100.

Version „complete FKM“ available on request!

Technical data

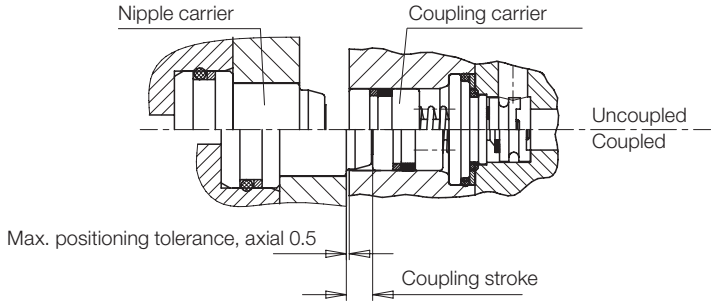
ND		5
Max. operating pressure	[bar]	300
Max. positioning tolerance, axial	[mm]	+ 0.5
Max. positioning tolerance, radial	[mm]	± 0.15
Coupling stroke	[mm]	4.5

For exterior centering use a dowel pin only

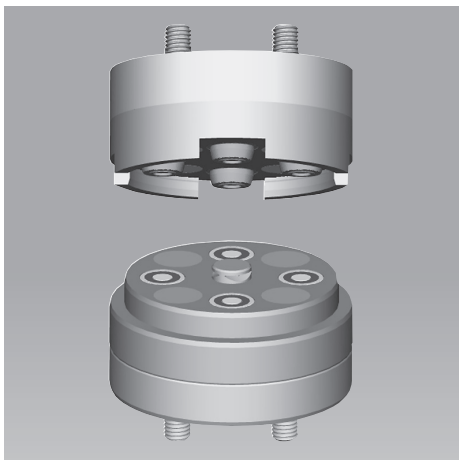
Part no.	Coupling carrier	Nipple carrier
Depressurised coupling	**0460843**	**0460844**
Coupling against pressure	**0460821**	**0460822**

Application example

Coupling situation

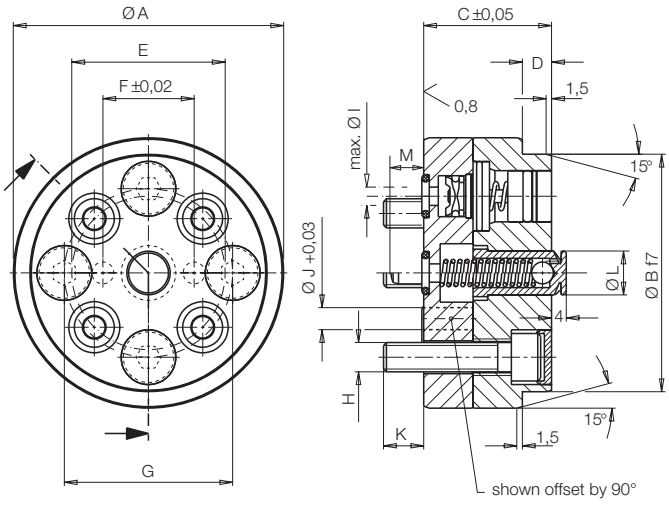


Coupling, 4 passages ND 5 and ND 8

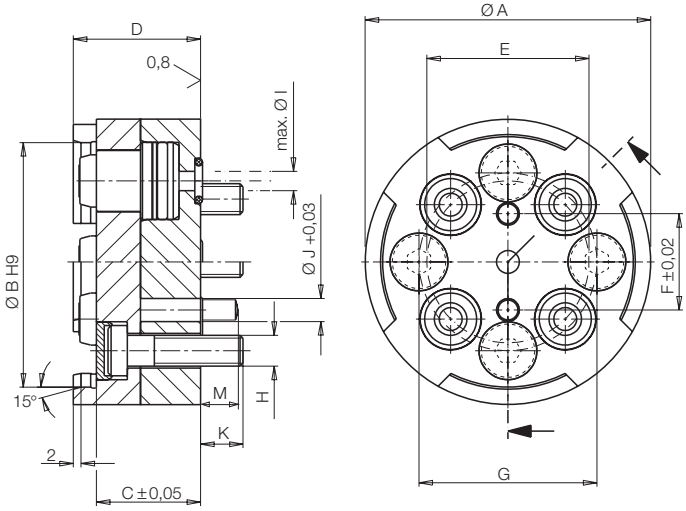


Element		Coupling carrier	Nipple carrier	Coupling carrier	Nippelträger
NW		5	5	8	8
Ø A	[mm]	74 d9	74 d9	105 f7	105 f7
Ø B	[mm]	65	65	96	96
C	[mm]	35 ±0.05	27 ±0.05	54 -0.1	31 -0.1
D	[mm]	8	33	12.5	43
E	[mm]	42	42	62	62
F	[mm]	25	25	44	44
G	[mm]	46	46	72	73
H	[mm]	M8	M8	M10	M10
Ø I	[mm]	5	5	8	8
Ø J	[mm]	6	6	6	6
K	[mm]	11	11	11	14
Ø L	[mm]	12	-	25	-
M	[mm]	10	10	12	8
Part no.					
Only depressurised coupling		**0460717**	**0460718**	**0460891**	**0460892**
Coupling against pressure		**0460720**	**0460721**	**0460749**	**0460750**

Coupling carrier



Nipple carrier



For exterior centering use a dowel pin only

Technical data

ND		5	8
Max. operating pressure	[bar]	300	300
Max. positioning tolerance, axial	[mm]	+0.5	+0.5
Max. positioning tolerance, radial	[mm]	± 0.15	± 0.15
Coupling stroke	[mm]	4.5	7.4

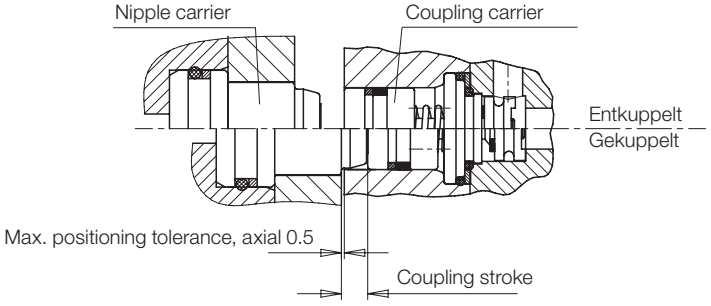
Important note

During coupling and uncoupling there are axial coupling forces due to the effective piston areas: these have to be compensated by corresponding measures (as e.g. weight of the pallet or the fixture or axial locking of the pallet).

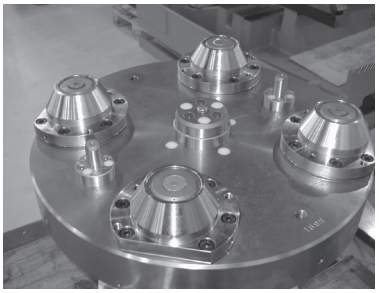
Coupling force ND 5: F[N] = 15.4 x p [bar] x n
Coupling force ND 8: F[N] = 28.4 x p [bar] x n

n = Number of the pressurised lines in coupled condition

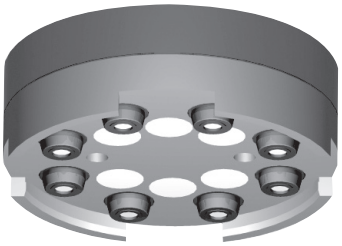
Coupling situation



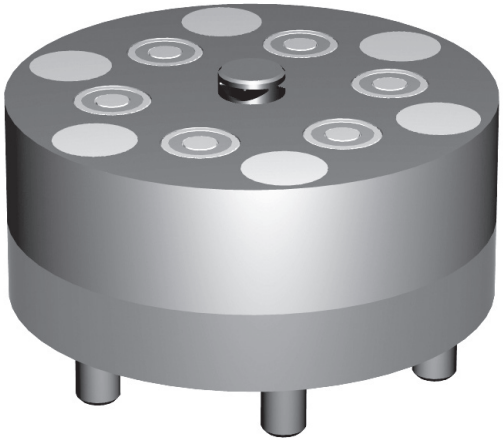
Application example



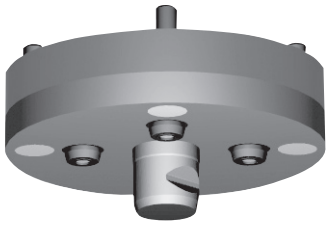
Coupling carrier 12 passages ND 5 with recessible cleaning jet (without base plate)



Coupling and nipple carrier 8 passages ND 5 with recessible cleaning jet



Coupling carrier 6 passages ND 5 with recessible cleaning jet



Coupling and nipple carrier 4 passages ND 5 with locking (coupling against pressure possible)

The size of the pallet diameter depends on the number of „pressurized“ coupling elements and the corresponding pressure. (Size and number of the fixing screws.)