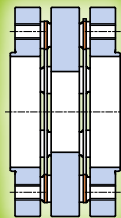
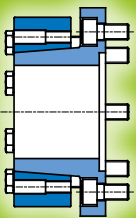
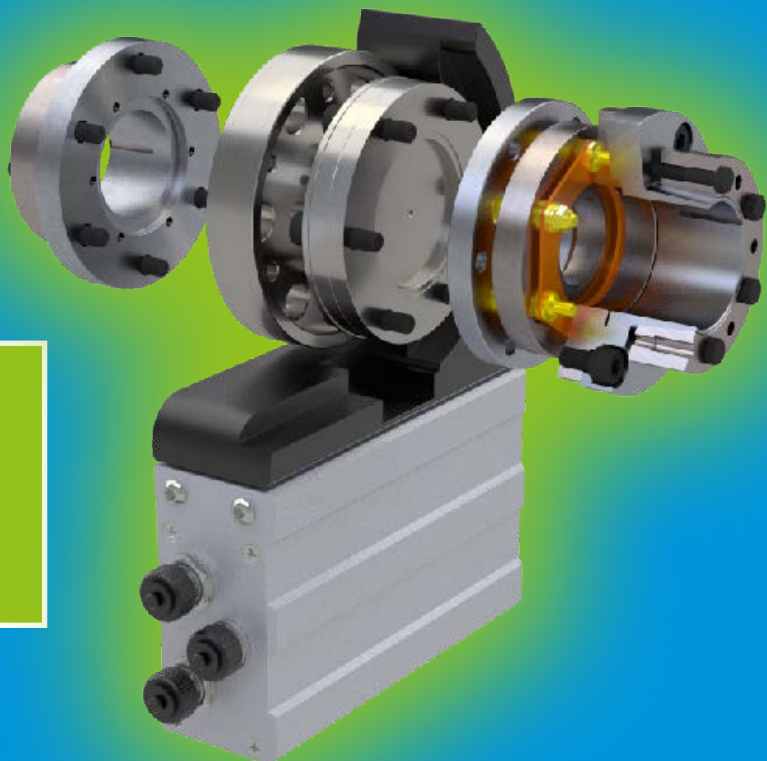




ROBA®-DS 9110 / 9210



Backlash-free shaft couplings
for torque transducers



ROBA®-DS - the backlash-free, torsionally rigid shaft coupling for HBM torque transducers

Characteristics and Advantages

- High precision and reliability
- Optimum running smoothness
- High speeds
- Robust and highly dynamic
- Different designs for optimum set-up



Design

ROBA®-DS disk pack couplings of the type series 9110 and 9210 are especially adapted for the attachment of HBM torque transducers. Different types of construction and flexible combination possibilities permit the integration of measurement flanges in almost every test stand and drive constellation (see the Installation and Operational Instructions B.9110._._).

Function

ROBA®-DS disk pack couplings compensate for **axial, radial** and **angular shaft misalignments**. Torque measurement flanges are precision transducers, using which the measurement of extremely small measurement uncertainties can be realised. However, for this purpose several prerequisites are necessary. One of the most important is the minimisation of the parasitic loads affecting the transducer, which amongst other things are caused by alignment errors in the drive line. The use of the ROBA®-DS as a torsionally rigid and backlash-free compensating coupling provides the optimum prerequisites in order to achieve the exact measurement results of the torque transducer.

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Designs

Standard constructional designs - Type 9110._ :

The couplings are balanced according to DIN ISO 1940 to a balance quality of G 2,5 at n = 3000 rpm

Preferred type of construction (shrink disk hub external)

- Compact and low mass moment of inertia design
- Quick installation
- External clamping of the shrink disks

Preferred variant is the shortest and most rigid design

Type of construction, shrink disk hub internal

- When the set-up of the measurement line from the load side is only possible via a shrink disk hub with internal clamping
- Complex installation in comparison to “Preferred type of construction” as a result of the intermediate flange required
- Higher mass moment of inertia compared to the “Preferred type of construction”

Sandwich construction

- Type of construction with maximum shaft misalignment compensation whilst simultaneously being the shortest possible type of construction
- External clamping of the shrink disks
- Complex installation in comparison to the “Preferred type of construction” as a result of the intermediate flange required
- Higher mass moment of inertia compared to the “Preferred type of construction”

High-speed constructional design for high speeds - Type 9210._ :

The individual parts are manufactured to a high level of accuracy (Quality IT5), with restricted shaft run-out and axial run-out tolerance.

The balance quality of the coupling is G 2,5 at n = 5000 rpm according to DIN ISO 1940.

Assignment of the torque transducers

Measurement flange by HBM	ROBA®-DS Size	
TB2	100 Nm	16 F
	200 Nm	16
	500 Nm	64
	1000 Nm	64
	2000 Nm	300
	3000 Nm	300
	5000 Nm	500
	10000 Nm	850
T10FS	100 Nm	16 F
	200 Nm	16
	500 Nm	64
	1000 Nm	64
	2000 Nm	300
	3000 Nm	300
	5000 Nm	500
	10000 Nm	850
T12	100 Nm	16 F
	200 Nm	16
	500 Nm	64
	1000 Nm	64
	2000 Nm	300
	3000 Nm	300
	5000 Nm	500
	10000 Nm	850
T40B ¹⁾	50 Nm	16 F
	100 Nm	16 F
	200 Nm	16
	500 Nm	64
	1000 Nm	64
	2000 Nm	300
	3000 Nm	300
	5000 Nm	500
10000 Nm	850	
T40FM	15 to 80 kNm	on request ²⁾
T40FH	100 to 300 kNm	on request ²⁾

1) Also valid for T40

2) in this torque range, shaft coupling assignment according to the application is necessary.

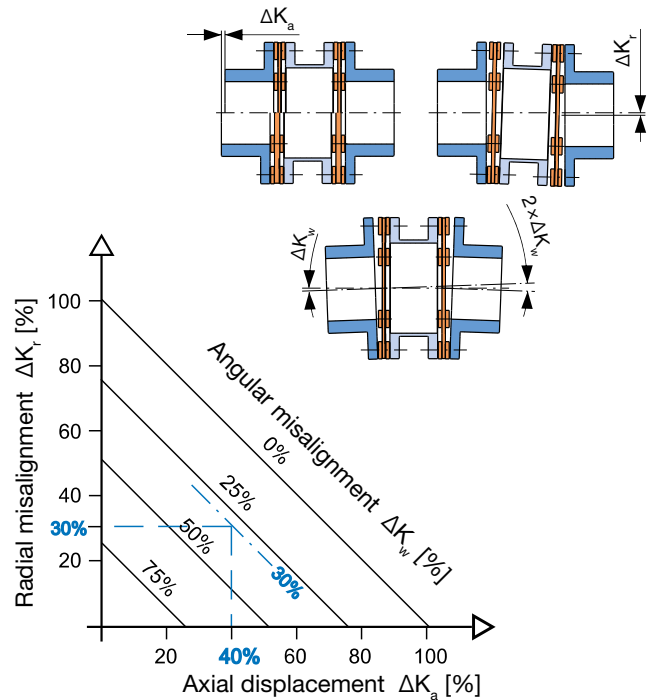


The "shrink disk hub internal" construction and the "sandwich construction" are not possible for the torque transducer T40.

Technical Explanations

Permitted misalignment of the shaft ends

Should several types of misalignment occur simultaneously, they will influence each other, i.e. the permitted misalignment values are dependent on one another. The sum of the actual misalignment as a percentage of the maximum value must not exceed 100 %, see example



Example: ROBA®-DS Size 300, Type 9210.11100

An axial displacement of $\Delta K_a = 0,16$ mm equates to 40 % of the permitted maximum value $\Delta K_a = 0,4$ mm.

A simultaneously occurring angular misalignment in the disk pack of $\Delta K_w = 0,048^\circ$ equates to 30 % of the permitted maximum value $\Delta K_w = 0,16^\circ$.

From this, a still-permitted radial misalignment of $\Delta K_r = 30$ % results from the maximum value $\Delta K_r = 0,08$ mm, i.e. maximum 0,024 mm is permitted.

Valid standards:

Coupling characteristic values according to DIN 740, Part 2, Section 2.1.

Stress dimensions according to DIN 740, Part 2, Sections 2.2 and 3 (dimensioning of the coupling for special applications). Coupling dynamically balanced according to ISO 1940.

General guidelines on installation

The disk packs of the coupling may not be overexpanded beyond the stated permitted flexibilities!

Installation Position

The ROBA-DS® shaft coupling with the torque measurement flange can be operated in any installation position (horizontal or vertical). In case of vertical operation, please observe that the permitted axial force is not exceeded by the test stand-side masses.

Frictionally-locking transmittable torques

Shrink disk hubs	Bore Ød [mm]	Size *					
		16 F	16	64	300	500	850
Frictionally-locking transmittable torques T_R [Nm]	25	320	-	-	-	-	-
	28	368	-	-	-	-	-
	30	403	-	-	-	-	-
	32	442	-	-	-	-	-
	35	506	-	-	-	-	-
	38	579	-	-	-	-	-
	40	632	-	-	-	-	-
	42	689	-	-	-	-	-
	45	782	1452	-	-	-	-
	50	-	1681	3101	-	-	-
	55	-	1943	3472	-	-	-
	60	-	2241	3883	4679	-	-
	65	-	2577	4340	5136	-	-
	68	-	2797	4637	5430	-	-
	70	-	2953	4845	5635	7726	-
	75	-	-	5402	6177	8354	-
	80	-	-	6016	6768	9088	-
	85	-	-	6687	7411	9850	-
90	-	-	-	8107	10670	-	
100	-	-	-	9674	12500	-	
110	-	-	-	-	14606	-	
120	-	-	-	-	17008	-	

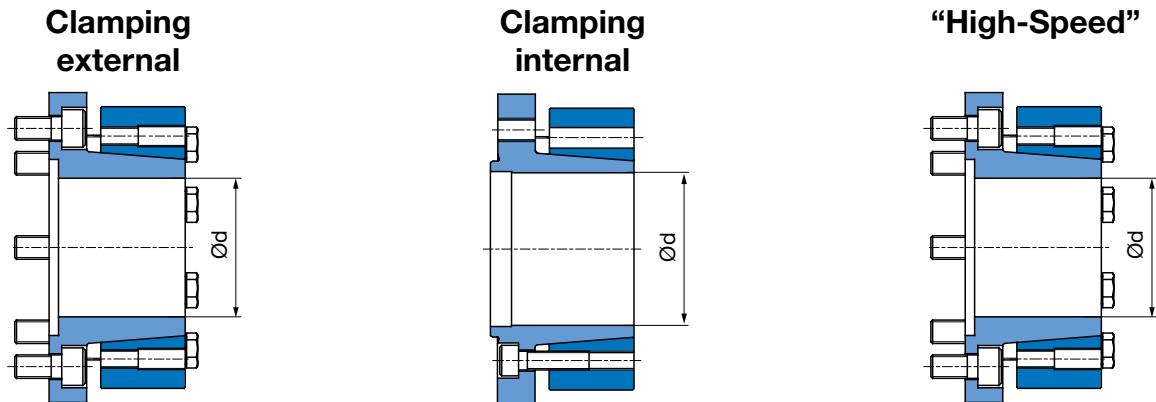
in relation to max. speed
Type 9110._
Suitable for H6 / h6

at max. speed
Type 9210._ transmittable torque
reduces by approx. 30 %
Suitable for H5 / h5

other tolerances, e.g. for motor
shaft tolerance 'k' or 'm', possible
on request

Attention!
Please observe the permitted
coupling torques of the coupling size used.

Shrink disk hubs

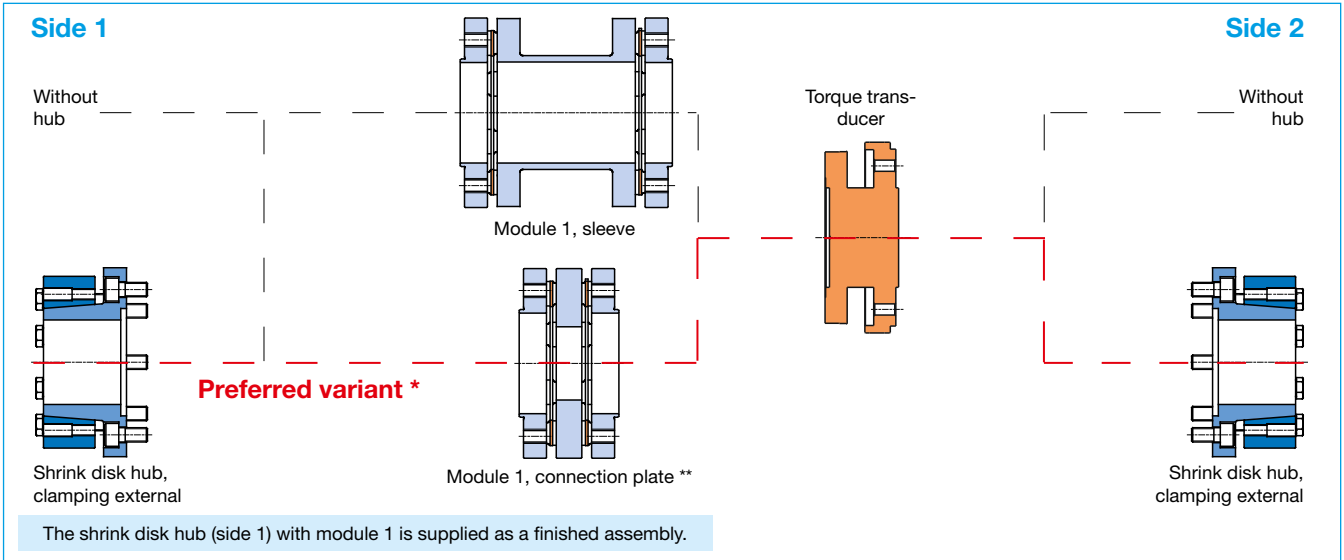


Order Number

Size *	Shrink disk hub	Bore Ød
16	1 Standard	Bore area, see page 5 (Type 9110.1) page 6 (Type 9110.2) page 10 (Type 9210.1)
64	2 High-Speed	
300		
500		
850		
Dimensions, see page 8 (Type 9110) page 11 (Type 9210)		
Order Number: <u> </u> / 9 <u> </u> 1 0 . <u> </u> 0 0 0 0 / <u> </u>		
Clamping 1 external 2 internal (only for shrink disk hub "Standard" Type 9110)		

Preferred type of construction (shrink disk hub external)

Standard design
Type 9110. __ _ 00



* The "preferred variant" is the shortest and most rigid design.

** Does not correspond to the former HBM ID. number 1-4411.011_ (see page 11)

The depicted connection screws are included in delivery.
The screws for the left flange of the torque transducer are not included in delivery.

Technical Data

ROBA®-DS Size		16 F	16	64	300	500	850			
Nominal torque	T_{KN}	[Nm]	190	300	1100	3500	5800	10000		
Peak torque ¹⁾	T_{KS}	[Nm]	285	450	1650	5250	8700	14250		
Oscillation range acc. DIN 50100 (peak - peak)	T_{KSB}	[Nm]	380	600	2200	7000	11600	20000		
Outer diameter	D	[mm]	102	102	132	178	210	252		
Minimum hub bore	d_{min}	[mm]	25 H6	25 H6	45 H6	50 H6	60 H6	70 H6		
Maximum hub bore	d_{max}	[mm]	45 H6	45 H6	70 H6	85 H6	100 H6	120 H6		
Maximum speed ²⁾	n_{max}	[rpm]	18000	18000	15000	12000	10000	8000		
Permitted misalignments	Perm. angular misalignment ³⁾	ΔK_w	[°]	1,0	0,7	0,6	0,5	0,5	0,5	
	Perm. axial displacement ⁴⁾	ΔK_a	[mm]	1,1	0,8	1,1	1,2	1,4	1,6	
	Perm. radial misalignment ⁴⁾	Module 1, connection plate	ΔK_{VP}	[mm]	0,30	0,20	0,25	0,25	0,35	0,40
Module 1, sleeve		ΔK_{HL}	[mm]	1,0	0,7	1,0	1,25	1,35	1,7	
Spring rigidities	Torsion ⁴⁾	Module 1, connection plate	$C_{T,VP}$	[10 ³ Nm/rad]	72,5	90	600	1740	5950	10300
		Module 1, sleeve	$C_{T,HL}$	[10 ³ Nm/rad]	65	78,5	463	1176	3312	5006
	Angular spring rigidity ³⁾			[Nm/rad]	229	285	1850	6980	11250	18580
Mass moments of inertia	Shrink disk hub, clamping external (with max. bore)			[10 ⁻³ kgm ²]	1,53	1,53	8,49	34,47	81,00	203,74
	Module 1, connection plate			[10 ⁻³ kgm ²]	1,86	1,85	10,78	50,46	110,42	274,68
	Module 1, sleeve			[10 ⁻³ kgm ²]	2,19	2,18	14,04	68,70	150,99	369,21
Weights	Shrink disk hub, clamping external (with max. bore)			[kg]	1,16	1,16	3,34	8,03	13,36	23,36
	Module 1, connection plate			[kg]	1,44	1,43	4,06	11,51	17,49	30,03
	Module 1, sleeve			[kg]	1,77	1,76	5,31	15,77	24,50	42,99

1) Valid for unchanging load direction, max. load cycle $\leq 10^5$

2) For speeds more than 5000 rpm, a limitation of the misalignment to max. 30 % is necessary.

3) The values refer to 1 disk pack.

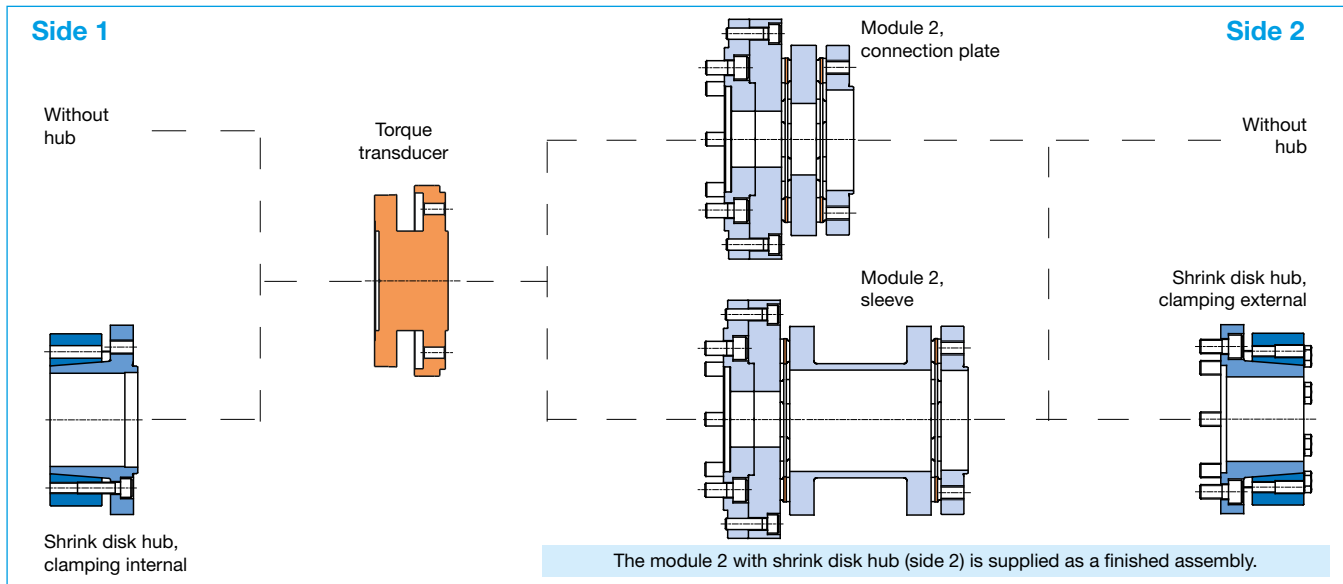
4) The values refer to couplings with 2 disk packs.

Order Number

Size 16 F to 850	Hub side 1		Hub side 2		Bore side 1	Bore side 2	
	Without	0	0	Without	side 1	side 2	
	Shrink disk hub, clamping external	1	1	Shrink disk hub, clamping external	Ød	Ød	
__	/	9	1	1	0	.	__
							__
							0
							0
					/		/
							__
							__
Attachment measurement flange side 1							
Module 1, connection plate **							1
Module 1, sleeve							2

Type of construction, shrink disk hub internal

Standard design
Type 9110._ _ 0_0



The depicted connection screws are included in delivery.
The screws for the left flange of the torque transducer are not included in delivery.

Technical Data

ROBA®-DS Size			16 F	16	64	300	500	850		
Nominal torque	T_{KN}	[Nm]	190	300	1100	3500	5800	10000		
Peak torque ¹⁾	T_{KS}	[Nm]	285	450	1650	5250	8700	14250		
Oscillation range acc. DIN 50100 (peak - peak)	T_{KSB}	[Nm]	380	600	2200	7000	11600	20000		
Outer diameter	D	[mm]	102	102	132	178	210	252		
Minimum hub bore	d_{min}	[mm]	25 H6	25 H6	45 H6	50 H6	60 H6	70 H6		
Maximum hub bore	d_{max}	[mm]	45 H6	45 H6	70 H6	85 H6	100 H6	120 H6		
Maximum speed ²⁾	n_{max}	[rpm]	18000	18000	15000	12000	10000	8000		
Permitted misalignments	Perm. angular misalignment ³⁾	ΔK_w	[°]	1,0	0,7	0,6	0,5	0,5	0,5	
	Perm. axial displacement ⁴⁾	ΔK_a	[mm]	1,1	0,8	1,1	1,2	1,4	1,6	
	Perm. radial misalignment ⁴⁾	ΔK_{VP}	[mm]	0,30	0,20	0,25	0,25	0,35	0,40	
Spring rigidities	Torsion ⁴⁾	Module 2, connection plate	$C_{T,VP}$	[10 ⁻³ Nm/rad]	72,5	90	600	1740	5950	10300
		Module 2, sleeve	$C_{T,HL}$	[10 ⁻³ Nm/rad]	65	78,5	463	1176	3312	5006
	Angular spring rigidity ³⁾			[Nm/rad]	229	285	1850	6980	11250	18580
Mass moments of inertia	Shrink disk hub, clamping external (with max. bore)		[10 ⁻³ kgm ²]	1,53	1,53	8,49	34,47	81,00	203,74	
	Shrink disk hub, clamping internal (with max. bore)		[10 ⁻³ kgm ²]	1,51	1,51	8,03	32,33	78,33	198,19	
	Module 2, connection plate		[10 ⁻³ kgm ²]	7,73	7,72	31,46	77,37	233,86	540,13	
	Module 2, sleeve		[10 ⁻³ kgm ²]	8,07	8,06	34,71	130,96	274,43	634,67	
Weights	Shrink disk hub, clamping external (with max. bore)		[kg]	1,16	1,16	3,34	8,03	13,36	23,36	
	Shrink disk hub, clamping internal (with max. bore)		[kg]	1,17	1,17	3,16	7,55	12,94	22,65	
	Module 2, connection plate		[kg]	3,78	3,77	9,18	20,32	31,19	50,27	
	Module 2, sleeve		[kg]	4,11	4,10	10,43	24,62	38,20	63,22	

1) Valid for unchanging load direction, max. load cycle $\leq 10^5$
2) For speeds more than 5000 rpm, a limitation of the misalignment to max. 30 % is necessary.

3) The values refer to 1 disk pack.
4) The values refer to couplings with 2 disk packs.

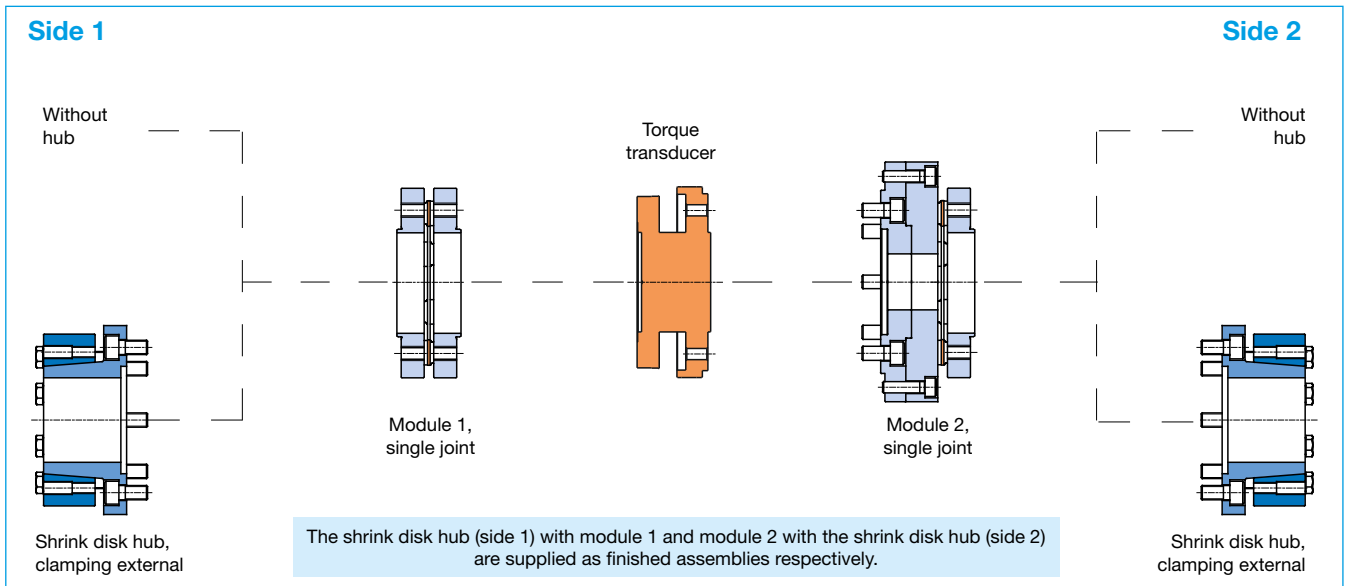
Order Number

Size 16 F to 850	Hub side 1 Without Shrink disk hub, clamping internal	0 2	0 1	Hub side 2 Without Shrink disk hub, clamping external	Bore side 1 Ød	Bore side 2 Ød									
__	/	9	1	1	0	.	__	__	0	__	0	/	__	/	__

Attachment measurement flange side 2
1 Module 2, connection plate
2 Module 2, sleeve

Sandwich construction

Standard design
Type 9110._ _330



The depicted connection screws are included in delivery.
The screws for the left flange of the torque transducer are not included in delivery.

Technical Data

ROBA®-DS Size			16 F	16	64	300	500	850	
Nominal torque	T_{KN}	[Nm]	190	300	1100	3500	5800	10000	
Peak torque ¹⁾	T_{KS}	[Nm]	285	450	1650	5250	8700	14250	
Oscillation range acc. DIN 50100 (peak - peak)	T_{KSB}	[Nm]	380	600	2200	7000	11600	20000	
Outer diameter	D	[mm]	102	102	132	178	210	252	
Minimum hub bore	d_{min}	[mm]	25 H6	25 H6	45 H6	50 H6	60 H6	70 H6	
Maximum hub bore	d_{max}	[mm]	45 H6	45 H6	70 H6	85 H6	100 H6	120 H6	
Maximum speed ²⁾	n_{max}	[rpm]	18000	18000	15000	12000	10000	8000	
Permitted misalignments	Perm. angular misalignment ³⁾	ΔK_w	[°]	1,0	0,7	0,6	0,5	0,5	0,5
	Perm. axial displacement ⁴⁾	ΔK_a	[mm]	1,1	0,8	1,1	1,2	1,4	1,6
	Perm. radial misalignment ^{4) 5)}	ΔK_r	[mm]	1,6	1,1	1,1	1,1	1,3	1,5
Spring rigidities	Torsion ⁴⁾ Modules 1 and 2 ⁶⁾	C_T	[10 ³ Nm/rad]	72,5	90	600	1740	5950	10300
	Angular spring rigidity ³⁾		[Nm/rad]	229	285	1850	6980	11250	18580
Mass moments of inertia	Shrink disk hub, clamping external (with max. bore)		[10 ⁻³ kgm ²]	1,53	1,53	8,49	34,47	81,00	203,74
	Module 1, single joint		[10 ⁻³ kgm ²]	1,37	1,37	6,52	31,92	71,86	177,88
	Module 2, single joint		[10 ⁻³ kgm ²]	7,24	7,24	27,20	94,14	195,30	443,34
Weights	Shrink disk hub, clamping external (with max. bore)		[kg]	1,16	1,16	3,34	8,03	13,36	23,36
	Module 1, single joint		[kg]	0,96	0,96	2,35	7,35	11,11	19,46
	Module 2, single joint		[kg]	3,30	3,30	7,48	16,19	24,81	39,69

1) Valid for unchanging load direction, max. load cycle $\leq 10^5$

2) For speeds more than 5000 rpm, a limitation of the misalignment to max. 30 % is necessary.

3) The values refer to 1 disk pack.

4) The values refer to couplings with 2 disk packs.

5) The values refer to the length of the measurement flange T40B.

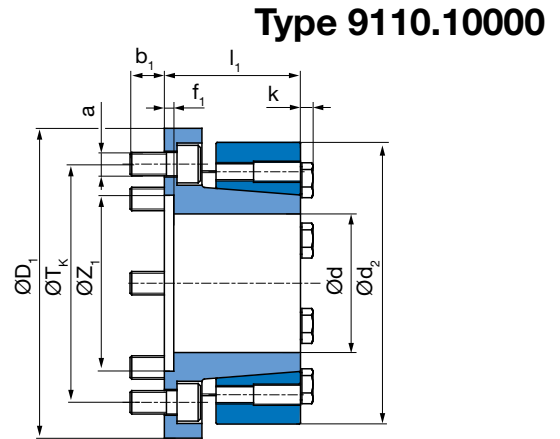
6) The torque transducer is not taken into consideration.

Order Number

Size 16 F to 850	Hub side 1 Without Shrink disk hub, clamping external		0 0	0 1	Hub side 2 Without Shrink disk hub, clamping external			Bore side 1 Ød	Bore side 2 Ød
— / 9	1	1	0	—	—	3	3	0 / — / —	— / —

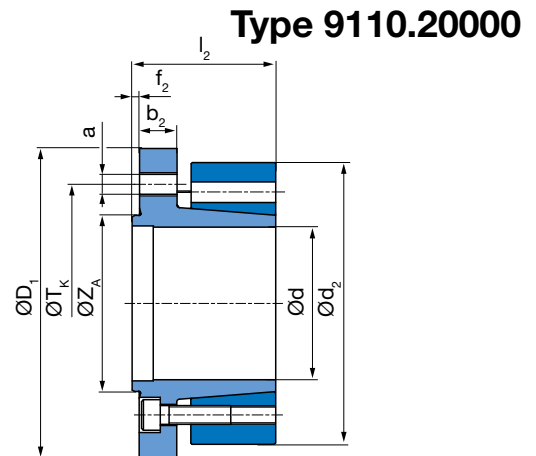
Shrink disk hub, clamping external

Size	16 F	16	64	300	500	850
a	6x M8	8x M10	8x M12	8x M14	8x M16	
b ₁	9,6	14,6	21	20	21,6	
d ₂	77	120	164	198	234	
f ₁	3,5	4	5	4	4	
k	3,5	5,3	5,3	6,4	7,5	
l ₁	38	58	70	80	98	
D ₁	102	132	167	193	240	
T _k	84	101,5	130	155,5	196	
Z ₁	57 H6	75 H6	90 H6	110 H6	140 H6	



Shrink disk hub, clamping internal

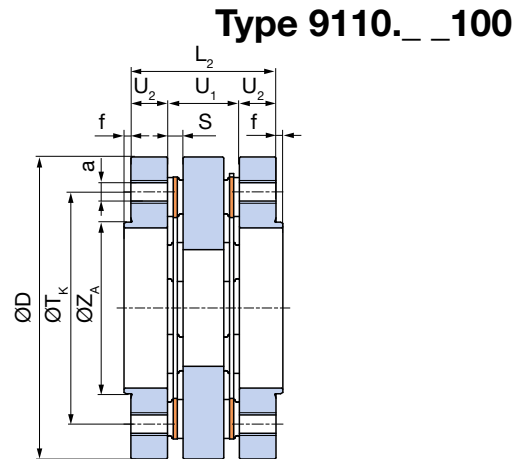
Size	16 F	16	64	300	500	850
a	6x M8	8x M10	8x M12	8x M14	8x M16	
b ₂	13	16	21	25	30	
d ₂	77	120	164	198	234	
f ₂	3	3	3	2,5	3	
l ₂	41	61	72	82,5	101	
D ₁	102	132	167	193	240	
T _k	84	101,5	130	155,5	196	
Z _A	57 g6	75 g6	90 g6	110 g6	140 g6	



Module 1, connection plate*

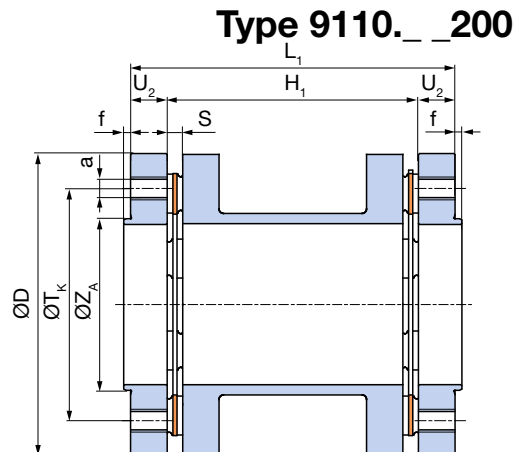
* Does not correspond to the former HBM ID. number 1-4411.____ (see page 11)

Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
f	3	3	3	2,5	2,5	3
D	99	99	132	178	210	252
L ₂	46,2	41,2	63,4	88	100	116
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
U ₂	10	10	16	22	25,5	29
U ₁	26,2	21,2	31,4	44	49	58
Z _A	57 g6	57 g6	75 g6	90 g6	110 g6	140 g6



Module 1, sleeve

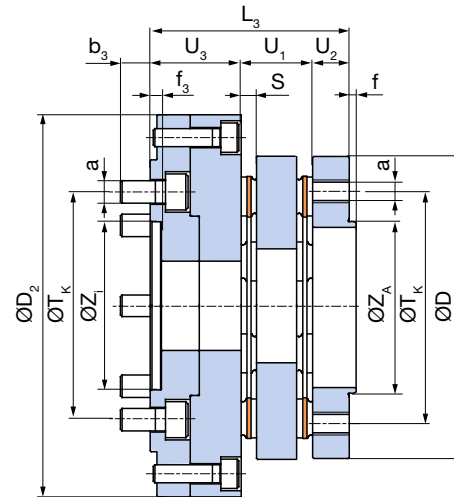
Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
f	3	3	3	2,5	2,5	3
D	99	99	132	178	210	252
L ₁	90,2	85,2	142,6	204,4	221	278
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
H ₁	70,2	65,2	110,6	160,4	170	220
U ₂	10	10	16	22	25,5	29
Z _A	57 g6	57 g6	75 g6	90 g6	110 g6	140 g6



Module 2, connection plate

Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
b ₃	10	10	13,2	21,2	24	28
f	3	3	3	2,5	2,5	3
f ₃	4	4	5	3	3,5	6
D	99	99	132	178	210	252
D ₂	132	132	170	220	250	300
L ₃	66,2	61,2	87,8	111,3	127	144
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
U ₁	26,2	21,2	31,4	44	49	58
U ₂	10	10	16	22	25,5	29
U ₃	30	30	40,4	45,3	52,5	57
Z _A	57 g6	57 g6	75 g6	90 g6	110 g6	140 g6
Z _I	57 H6	57 H6	75 H6	90 H6	110 H6	140 H6

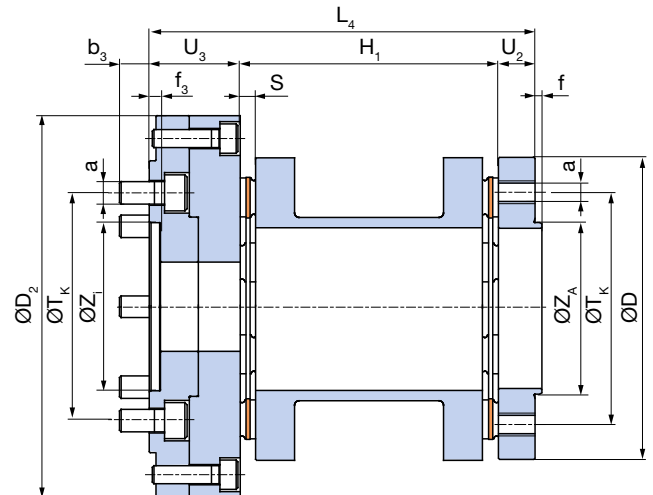
Type 9110._ _010



Module 2, sleeve

Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
b ₃	10	10	13,2	21,2	24	28
f	3	3	3	2,5	2,5	3
f ₃	4	4	5	4	3,5	6
D	99	99	132	178	210	252
D ₂	132	132	170	220	250	300
H ₁	70,2	65,2	110,6	160,4	170	220
L ₄	110,2	105,2	167	227,7	248	306
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
U ₂	10	10	16	22	25,5	29
U ₃	30	30	40,4	45,3	52,5	57
Z _A	57 g6	57 g6	75 g6	90 g6	110 g6	140 g6
Z _I	57 H6	57 H6	75 H6	90 H6	110 H6	140 H6

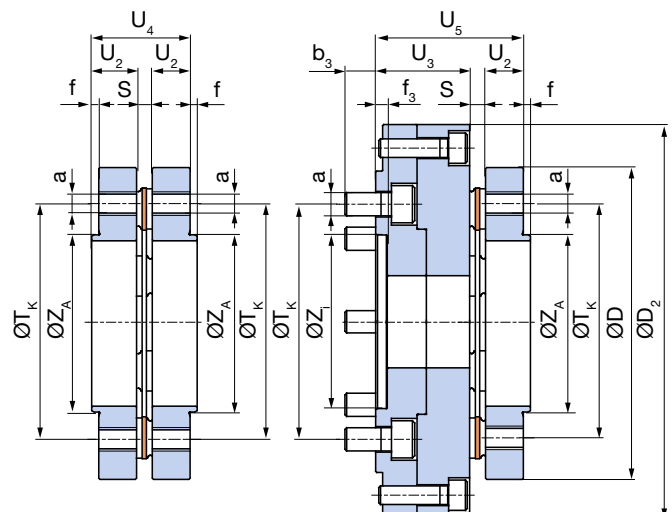
Type 9110._ _020



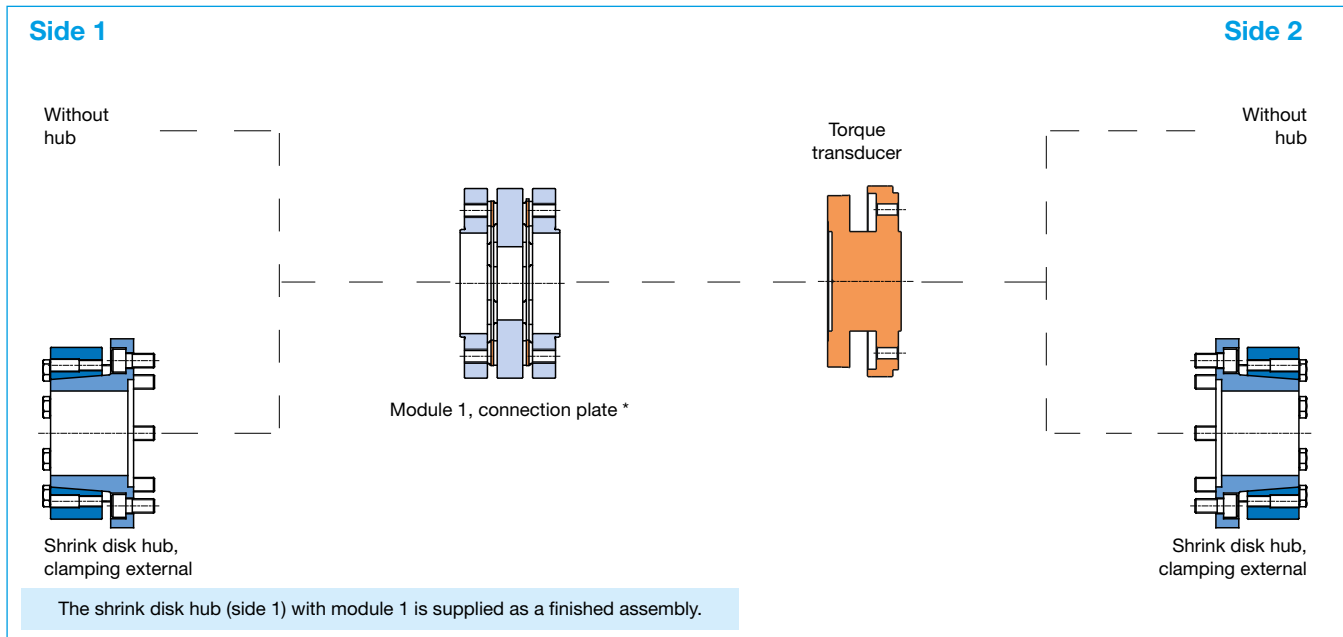
Module 1, single joint / module 2, single joint for integrated measurement flange

Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
b ₃	10	10	13,2	21,2	24	28
f	3	3	3	2,5	2,5	3
f ₃	4	4	5	4	3,5	6
D	99	99	132	178	210	252
D ₂	132	132	170	220	250	300
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
U ₂	10	10	16	22	25,5	29
U ₃	30	30	40,4	45,3	52,5	57
U ₄	27,1	24,6	38,8	55,2	63	72
U ₅	47,1	44,6	63,2	78,5	90	100
Z _A	57 g6	57 g6	75 g6	90 g6	110 g6	140 g6
Z _I	57 H6	57 H6	75 H6	90 H6	110 H6	140 H6

Type 9110._ _330



High-speed constructional design Type 9210._ _100



* Does not correspond to the former HBM ID. number 1-4411.011_ (see page 11)

The depicted connection screws are included in delivery.
The screws for the left flange of the torque transducer are not included in delivery.

Technical Data

ROBA®-DS Size			16 F	16	64	300	500	850	
Nominal torque	T_{KN}	[Nm]	190	300	1100	3500	5800	10000	
Peak torque ¹⁾	T_{KS}	[Nm]	285	450	1650	5250	8700	14250	
Oscillation range acc. DIN 50100 (peak - peak)	T_{KSB}	[Nm]	380	600	2200	7000	11600	20000	
Outer diameter	D	[mm]	102	102	132	178	210	252	
Minimum hub bore	d_{min}	[mm]	25 H5	25 H5	45 H5	50 H5	60 H5	70 H5	
Maximum hub bore	d_{max}	[mm]	45 H5	45 H5	70 H5	85 H5	100 H5	120 H5	
Maximum speed	n_{max}	[rpm]	30000	30000	25000	20000	16000	13000	
Permitted misalignments	Perm. angular misalignment ²⁾	ΔK_w	[°]	0,3	0,2	0,2	0,16	0,16	0,16
	Perm. axial displacement ³⁾	ΔK_a	[mm]	0,2	0,2	0,3	0,4	0,4	0,5
	Perm. radial misalignment ³⁾ Module 1, connection plate	ΔK_{VP}	[mm]	0,06	0,06	0,08	0,08	0,11	0,13
Spring rigidities	Torsion ³⁾ Module 1, connection plate	$C_{T,VP}$	[10 ³ Nm/rad]	72,5	90	600	1740	5950	10300
	Angular spring rigidity ²⁾		[Nm/rad]	229	285	1850	6980	11250	18580
Mass moment of inertia	Shrink disk hub, clamping external (with max. bore)		[10 ⁻³ kgm ²]	1,53	1,53	8,49	34,47	81,00	203,74
	Module 1, connection plate		[10 ⁻³ kgm ²]	1,86	1,85	10,78	50,46	110,42	274,68
Weights	Shrink disk hub, clamping external (with max. bore)		[kg]	1,16	1,16	3,34	8,03	13,36	23,36
	Module 1, connection plate		[kg]	1,44	1,43	4,06	11,51	17,49	30,03

1) Valid for unchanging load direction, max. load cycle $\leq 10^5$

2) The values refer to 1 disk pack.

3) The values refer to couplings with 2 disk packs.

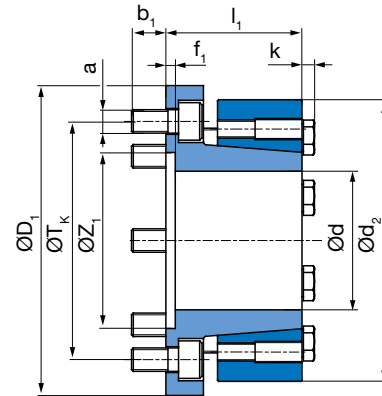
Order Number

Size 16 F to 850	Hub side 1 Without Shrink disk hub, clamping external		0 0 1 1	Hub side 2 Without Shrink disk hub, clamping external		Bore side 1 Ød	Bore side 2 Ød
__ / 9 2 1 0 . __	0	1	0	1	0	0	/ __ / __

Shrink disk hub, clamping external

Size	16 F	16	64	300	500	850
a	6x M8		8x M10	8x M12	8x M14	8x M16
b ₁	9,6		14,6	21	20	21,6
d ₂	77		120	164	198	234
f ₁	3,5		4	5	4	4
k	3,5		5,3	5,3	6,4	7,5
l ₁	38		58	70	80	98
D ₁	102		132	167	193	238
T _k	84		101,5	130	155,5	196
Z ₁	57 H5		75 H5	90 H5	110 H5	140 H5

Type 9210.10100

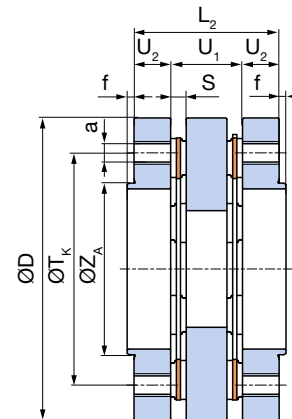


Module 1, connection plate *

* Does not correspond to the former HBM ID. number 1-4411.011_ (see page below)

Size	16 F	16	64	300	500	850
a	6x M8	6x M8	8x M10	8x M12	8x M14	8x M16
f	3	3	3	2,5	2,5	3
D	99	99	132	178	210	252
L ₂	46,2	41,2	63,4	88	100	116
S	7,1	4,6	6,8	11,2	12	14
T _k	84	84	101,5	130	155,5	196
U ₂	10	10	16	22	25,5	29
U ₁	26,2	21,2	31,4	44	49	58
Z _A	57 g5	57 g5	75 g5	90 g5	110 g5	140 g5

Type 9210._ _100 *

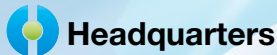


Module according to former HBM ID. number 1-4411.011_

These designs can still be obtained for replacement directly from *mayr*[®] power transmission.

<i>mayr</i> [®] article no.	8200430	8198450	8195550	8200508	8200434
HBM article no.	1-4411.0110	1-4411.0111	1-4411.0112	1-4411.0113	1-4411.0114
ROBA [®] -DS size	16	64	300	500	850

Dimensions on request



Chr. Mayr GmbH + Co. KG
Eichenstraße 1, D-87665 Mauerstetten
Tel.: +49 83 41/8 04-0, Fax: +49 83 41/80 44 21
www.mayr.com, E-Mail: info@mayr.com



Service Germany

Baden-Württemberg
 Esslinger Straße 7
 70771 Leinfelden-Echterdingen
 Tel.: 07 11/45 96 01 0
 Fax: 07 11/45 96 01 10

Bavaria
 Eichenstraße 1
 87665 Mauerstetten
 Tel.: 0 83 41/80 41 04
 Fax: 0 83 41/80 44 23

Chemnitz
 Bornaer Straße 205
 09114 Chemnitz
 Tel.: 03 71/4 74 18 96
 Fax: 03 71/4 74 18 95

Franken
 Unterer Markt 9
 91217 Hersbruck
 Tel.: 0 91 51/81 48 64
 Fax: 0 91 51/81 62 45

Hagen
 Im Langenstück 6
 58093 Hagen
 Tel.: 0 23 31/78 03 0
 Fax: 0 23 31/78 03 25

Kamen
 Lünener Straße 211
 59174 Kamen
 Tel.: 0 23 07/23 63 85
 Fax: 0 23 07/24 26 74

North
 Schiefer Brink 8
 32699 Extertal
 Tel.: 0 57 54/9 20 77
 Fax: 0 57 54/9 20 78

Rhine-Main
 Hans-Böckler-Straße 6
 64823 Groß-Umstadt
 Tel.: 0 60 78/7 82 53 37
 Fax: 0 60 78/9 30 08 00

Branch office

China
 Mayr Zhangjiagang
 Power Transmission Co., Ltd.
 Fuxin Road No.7, Yangshe Town
 215637 Zhangjiagang
 Tel.: 05 12/58 91-75 67
 Fax: 05 12/58 91-75 66
 info@mayr-ptc.cn

Great Britain
 Mayr Transmissions Ltd.
 Valley Road, Business Park
 Keighley, BD21 4LZ
 West Yorkshire
 Tel.: 0 15 35/66 39 00
 Fax: 0 15 35/66 32 61
 sales@mayr.co.uk

France
 Mayr France S.A.S.
 Z.A.L. du Minopole
 Rue Nungesser et Coli
 62160 Bully-Les-Mines
 Tel.: 03.21.72.91.91
 Fax: 03.21.29.71.77
 contact@mayr.fr

Italy
 Mayr Italia S.r.l.
 Viale Veneto, 3
 35020 Saonara (PD)
 Tel.: 0498/79 10 20
 Fax: 0498/79 10 22
 info@mayr-italia.it

Singapore
 Mayr Transmission (S) PTE Ltd.
 No. 8 Boon Lay Way Unit 03-06,
 TradeHub 21
 Singapore 609964
 Tel.: 00 65/65 60 12 30
 Fax: 00 65/65 60 10 00
 info@mayr.com.sg

Switzerland
 Mayr Kupplungen AG
 Tobelackerstraße 11
 8212 Neuhausen am Rheinfall
 Tel.: 0 52/6 74 08 70
 Fax: 0 52/6 74 08 75
 info@mayr.ch

USA
 Mayr Corporation
 10 Industrial Avenue
 Mahwah
 NJ 07430
 Tel.: 2 01/4 45-72 10
 Fax: 2 01/4 45-80 19
 info@mayrcorp.com

Representatives

Australia
 Regal Beloit Australia Pty Ltd.
 19 Corporate Ave
 03178 Rowville, Victoria
 Australien
 Tel.: 0 3/92 37 40 00
 Fax: 0 3/92 37 40 80
 salesAUvic@regalbeloit.com

India
 National Engineering
 Company (NENCO)
 J-225, M.I.D.C.
 Bhosari Pune 411026
 Tel.: 0 20/27 13 00 29
 Fax: 0 20/27 13 02 29
 nenco@nenco.org

Japan
 MATSUI Corporation
 2-4-7 Azabudai
 Minato-ku
 Tokyo 106-8641
 Tel.: 03/35 86-41 41
 Fax: 03/32 24 24 10
 k.goto@matsui-corp.co.jp

Netherlands
 Groneman BV
 Amarilstraat 11
 7554 TV Hengelo OV
 Tel.: 074/2 55 11 40
 Fax: 074/2 55 11 09
 aandrijftechnik@groneman.nl

Poland
 Wamex Sp. z o.o.
 ul. Pozaryskiego, 28
 04-703 Warszawa
 Tel.: 0 22/6 15 90 80
 Fax: 0 22/8 15 61 80
 wamex@wamex.com.pl

South Korea
 Mayr Korea Co. Ltd.
 15, Yeondeok-ro 9beon-gil
 Seongsan-gu
 51571 Changwon-si
 Gyeongsangnam-do. Korea
 Tel.: 0 55/2 62-40 24
 Fax: 0 55/2 62-40 25
 info@mayrkorea.com

Taiwan
 German Tech Auto Co., Ltd.
 No. 28, Fenggong Zhong Road,
 Shengang Dist.,
 Taichung City 429, Taiwan R.O.C.
 Tel.: 04/25 15 05 66
 Fax: 04/25 15 24 13
 abby@zfgta.com.tw

Czech Republic
 BMC - TECH s.r.o.
 Hvězdoslavova 29 b
 62700 Brno
 Tel.: 05/45 22 60 47
 Fax: 05/45 22 60 48
 info@bmc-tech.cz

More representatives:

Austria, Belgium, Brazil, Canada, Denmark, Finland, Greece, Hongkong, Hungary, Indonesia, Israel, Luxembourg, Malaysia, New Zealand, Norway, Philippines, Romania, Russia, Slovakia, Slovenia, South Africa, Spain, Sweden, Thailand, Turkey

You can find the complete address for the representative responsible for your area under www.mayr.com in the internet.