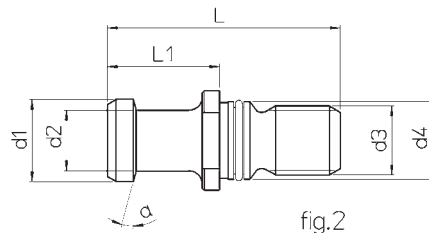
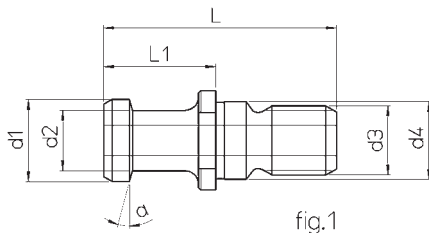
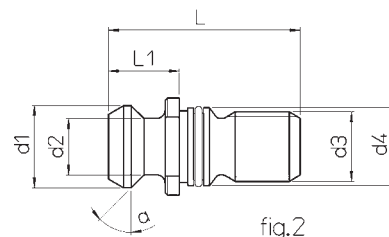
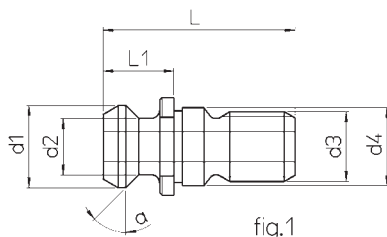


ISO 7388/2A - DIN 69872



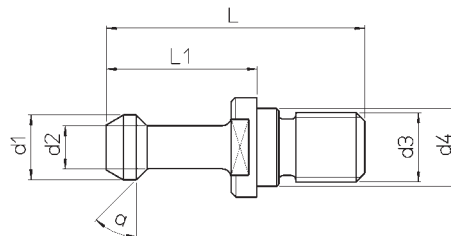
REF.	CODE	ISO	d ₁	d ₂	d ₃	d ₄	L	L ₁	a	fig.
ISO 7388/2-A DIN69872	20 143 025 0401	40	19	14	M16	17	54	26	15°	1
	20 143 025 0451	45	23	17	M20	21	65	30		
	20 143 025 0501	50	28	21	M24	25	74	34		
	20 143 025 0400	40	19	14	M16	17	54	26	15°	2
	20 143 025 0500	50	28	21	M24	25	74	34		

ISO 7388/2B - ANSI B.5 50



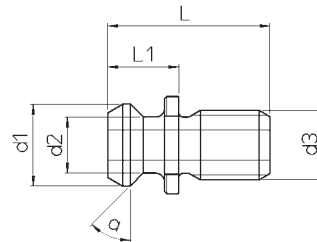
REF.	CODE	ISO	d ₁	d ₂	d ₃	d ₄	L	L ₁	a	fig.
ISO 7388/2-B ANSI B.5 50	20 143 025 1401	40	18.95	12.95	M16	17	44.50	16.40	45°	1
	20 143 025 1451	45	24.05	16.30	M20	21	56	20.95		
	20 143 025 1501	50	29.10	19.60	M24	25	65.50	25.55		
	20 143 025 1400	40	18.95	12.95	M16	17	44.50	16.40	45°	2
	20 143 025 1500	50	29.10	19.60	M24	25	65.50	25.55		

MAS 403 BT - 30° - 45°



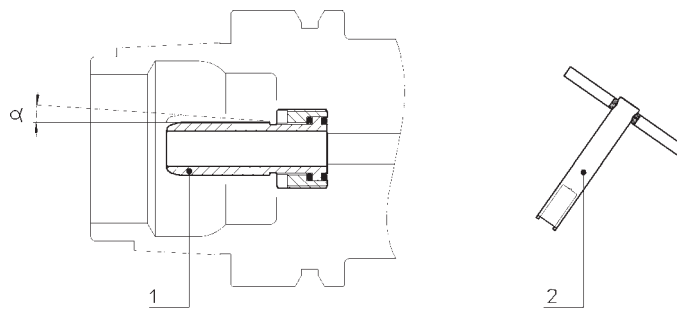
REF.	CODE	ISO	d ₁	d ₂	d ₃	d ₄	L	L ₁	a
MAS403 BT 30°	20 143 025 2301	30	11	7	M12	12.5	43	23	30°
	20 143 025 2401	40	15	10	M16	17	60	35	
	20 143 025 2451	45	19	14	M20	21	70	40	
	20 143 025 2501	50	23	17	M24	25	85	45	
MAS403 BT 45°	20 143 025 2302	30	11	7	M12	12.5	43	23	45°
	20 143 025 2402	40	15	10	M16	17	60	35	
	20 143 025 2452	45	19	14	M20	21	70	40	
	20 143 025 2502	50	23	17	M24	25	85	45	

CAT INCH

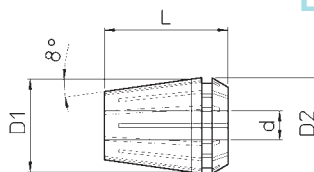
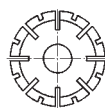


REF.	CODE	CAT	d ₁	d ₂	d ₃	L	L ₁	a
CAT INCH	20 143 025 0403	40	18.8	12.5	UNC 5/8-11	38	16.2	45°
	20 143 025 0503	50	28.95	20.8	UNC 1-8	58.5	25.4	

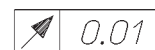
HSK



REF.	CODE 1	α	CODE 2
HSK50	38 20 19 010001	$\pm 1^\circ$	10 150 11 0 1400
HSK63	38 20 19 012001	$\pm 1^\circ$	10 150 11 0 1600
HSK80	38 20 19 014001	$\pm 1^\circ$	10 150 11 0 1800
HSK100	38 20 19 016001	$\pm 1^\circ$	10 150 11 0 2200



ER.. DIN 6499-B



REF.	d	D ₁	D ₂	L
ER 11	0.5 ~ 7	11	11.5	18
ER 16	0.5 ~ 10	16	17	27.5
ER 20	1 ~ 13	20	21	31.5
ER 25	1 ~ 16	25	26	34
ER 32	2 ~ 20	32	33	40
ER 40	3 ~ 26	40	41	46

RANGE	ER11	ER16	ER20	ER25	ER32	ER40
1 - 0.5	49 60 8 0111010	49 60 8 0116010	-	-	-	-
1.5 - 1	49 60 8 0111015	49 60 8 0116015	-	-	-	-
2 - 1	-	-	49 60 8 0120020	49 60 8 0125020	-	-
2 - 1.5	49 60 8 0111020	49 60 8 0116021	-	-	-	-
2.5 - 2	49 60 8 0111025	49 60 8 0116025	-	-	-	-
3 - 2	-	49 60 8 0116030	49 60 8 0120030	49 60 8 0125030	49 60 8 0132030	-
3 - 2.5	49 60 8 0111030	-	-	-	-	-
3.5 - 3	49 60 8 0111035	-	-	-	-	-
4 - 3	-	49 60 8 0116040	49 60 8 0120040	49 60 8 0125040	49 60 8 0132040	49 60 8 0140040
4 - 3.5	49 60 8 0111040	-	-	-	-	-
4.5 - 4	49 60 8 0111045	-	-	-	-	-
5 - 4	-	49 60 8 0116050	49 60 8 0120050	49 60 8 0125050	49 60 8 0132050	49 60 8 0140050
5 - 4.5	49 60 8 0111050	-	-	-	-	-
5.5 - 5	49 60 8 0111055	-	-	-	-	-
6 - 5	-	49 60 8 0116060	49 60 8 0120060	49 60 8 0125060	49 60 8 0132060	49 60 8 0140060
6 - 5.5	49 60 8 0111060	-	-	-	-	-
6.5 - 6	49 60 8 0111065	-	-	-	-	-
7 - 6	-	49 60 8 0116070	49 60 8 0120070	49 60 8 0125070	49 60 8 0132070	49 60 8 0140070
7 - 6.5	49 60 8 0111070	-	-	-	-	-
8 - 7	-	49 60 8 0116080	49 60 8 0120080	49 60 8 0125080	49 60 8 0132080	49 60 8 0140080
9 - 8	-	49 60 8 0116090	49 60 8 0120090	49 60 8 0125090	49 60 8 0132090	49 60 8 0140090
10 - 9	-	49 60 8 0116100	49 60 8 0120100	49 60 8 0125100	49 60 8 0132100	49 60 8 0140100
11 - 10	-	-	49 60 8 0120110	49 60 8 0125110	49 60 8 0132110	49 60 8 0140110
12 - 11	-	-	49 60 8 0120120	49 60 8 0125120	49 60 8 0132120	49 60 8 0140120
13 - 12	-	-	49 60 8 0120130	49 60 8 0125130	49 60 8 0132130	49 60 8 0140130
14 - 13	-	-	-	49 60 8 0125140	49 60 8 0132140	49 60 8 0140140
15 - 14	-	-	-	49 60 8 0125150	49 60 8 0132150	49 60 8 0140150
16 - 15	-	-	-	49 60 8 0125160	49 60 8 0132160	49 60 8 0140160
17 - 16	-	-	-	-	49 60 8 0132170	49 60 8 0140170
18 - 17	-	-	-	-	49 60 8 0132180	49 60 8 0140180
19 - 18	-	-	-	-	49 60 8 0132190	49 60 8 0140190
20 - 19	-	-	-	-	49 60 8 0132200	49 60 8 0140200
21 - 20	-	-	-	-	-	49 60 8 0140210
22 - 21	-	-	-	-	-	49 60 8 0140220
23 - 22	-	-	-	-	-	49 60 8 0140230
24 - 23	-	-	-	-	-	49 60 8 0140240
25 - 24	-	-	-	-	-	49 60 8 0140250
26 - 25	-	-	-	-	-	49 60 8 0140260

SET ER



REF.	Ø	CODE
SET ER11/13	0.5 ~ 7	49 60 8 0111000
SET ER16/10	0.5 ~ 10	49 60 8 0116000
SET ER20/12	1 ~ 13	49 60 8 0120000
SET ER25/15	1 ~ 16	49 60 8 0125000
SET ER32/18	2 ~ 20	49 60 8 0132000
SET ER40/23	3 ~ 26	49 60 8 0140000

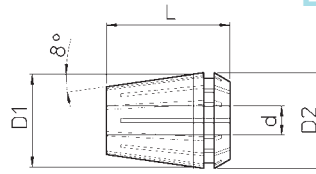
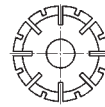
ER ultra-precise
collet

Präzisionsspannzangen

Pinças ER
ultra-precisas

Pinces ER
extraprecises

Pinze ER
extraprecise



ER.. DIN 6499-B



REF.	d	D ₁	D ₂	L
ER 16.UP	0.5 ~ 10	16	17	27.5
ER 25.UP	1 ~ 16	25	26	34
ER 32.UP	2 ~ 20	32	33	40
ER 40.UP	3 ~ 26	40	41	46

RANGE	ER16	ER25	ER32	ER40
1 - 0.5	49 60 8 0016010	-	-	-
1.5 - 1 •	49 60 8 0016015	-	-	-
2 - 1.5	49 60 8 0016020	49 60 8 0025020	-	-
2.5 - 2 •	49 60 8 0016025	49 60 8 0025025	49 60 8 0032025	-
3 - 2.5	49 60 8 0016030	49 60 8 0025030	49 60 8 0032030	-
3.5 - 3 •	49 60 8 0016035	49 60 8 0025035	49 60 8 0032035	49 60 8 0040035
4 - 3.5	49 60 8 0016040	49 60 8 0025040	49 60 8 0032040	49 60 8 0040040
4.5 - 4 •	49 60 8 0016045	49 60 8 0025045	49 60 8 0032045	49 60 8 0040045
5 - 4.5	49 60 8 0016050	49 60 8 0025050	49 60 8 0032050	49 60 8 0040050
5.5 - 5 •	49 60 8 0016055	49 60 8 0025055	49 60 8 0032055	49 60 8 0040055
6 - 5.5	49 60 8 0016060	49 60 8 0025060	49 60 8 0032060	49 60 8 0040060
6.5 - 6 •	49 60 8 0016065	49 60 8 0025065	49 60 8 0032065	49 60 8 0040065
7 - 6.5	49 60 8 0016070	49 60 8 0025070	49 60 8 0032070	49 60 8 0040070
7.5 - 7 •	49 60 8 0016075	49 60 8 0025075	49 60 8 0032075	49 60 8 0040075
8 - 7.5	49 60 8 0016080	49 60 8 0025080	49 60 8 0032080	49 60 8 0040080
8.5 - 8 •	49 60 8 0016085	49 60 8 0025085	49 60 8 0032085	49 60 8 0040085
9 - 8.5	49 60 8 0016090	49 60 8 0025090	49 60 8 0032090	49 60 8 0040090
9.5 - 9 •	49 60 8 0016095	49 60 8 0025095	49 60 8 0032095	49 60 8 0040095
10 - 9.5	49 60 8 0016100	49 60 8 0025100	49 60 8 0032100	49 60 8 0040100
10.5 - 10 •	-	49 60 8 0025105	49 60 8 0032105	49 60 8 0040105
11 - 10.5	-	49 60 8 0025110	49 60 8 0032110	49 60 8 0040110
11.5 - 11 •	-	49 60 8 0025115	49 60 8 0032115	49 60 8 0040115
12 - 11.5	-	49 60 8 0025120	49 60 8 0032120	49 60 8 0040120
12.5 - 12 •	-	49 60 8 0025125	49 60 8 0032125	49 60 8 0040125
13 - 12.5	-	49 60 8 0025130	49 60 8 0032130	49 60 8 0040130
13.5 - 13 •	-	49 60 8 0025135	49 60 8 0032135	49 60 8 0040135
14 - 13.5	-	49 60 8 0025140	49 60 8 0032140	49 60 8 0040140
14.5 - 14 •	-	49 60 8 0025145	49 60 8 0032145	49 60 8 0040145
15 - 14.5	-	49 60 8 0025150	49 60 8 0032150	49 60 8 0040150
15.5 - 15 •	-	49 60 8 0025155	49 60 8 0032155	49 60 8 0040155
16 - 15.5	-	49 60 8 0025160	49 60 8 0032160	49 60 8 0040160
16.5 - 16 •	-	-	49 60 8 0032165	49 60 8 0040165
17 - 16.5	-	-	49 60 8 0032170	49 60 8 0040170
17.5 - 17 •	-	-	49 60 8 0032175	49 60 8 0040175
18 - 17.5	-	-	49 60 8 0032180	49 60 8 0040180
18.5 - 18 •	-	-	49 60 8 0032185	49 60 8 0040185
19 - 18.5	-	-	49 60 8 0032190	49 60 8 0040190
19.5 - 19 •	-	-	49 60 8 0032195	49 60 8 0040195
20 - 19.5	-	-	49 60 8 0032200	49 60 8 0040200
20.5 - 20 •	-	-	-	49 60 8 0040205
21 - 20.5	-	-	-	49 60 8 0040210
21.5 - 21 •	-	-	-	49 60 8 0040215
22 - 21.5	-	-	-	49 60 8 0040220
22.5 - 22 •	-	-	-	49 60 8 0040225
23 - 22.5	-	-	-	49 60 8 0040230
23.5 - 23 •	-	-	-	49 60 8 0040235
24 - 23.5	-	-	-	49 60 8 0040240
24.5 - 24 •	-	-	-	49 60 8 0040245
25 - 24.5	-	-	-	49 60 8 0040250
25.5 - 25 •	-	-	-	49 60 8 0040255
26 - 25.5	-	-	-	49 60 8 0040260

• On request

• Auf Anfrage

• A petición

• Sur demande

• Fornibili su richiesta

Tapping collets
with axial
compensation

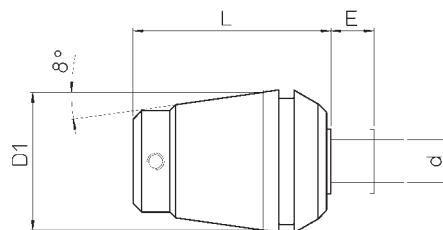
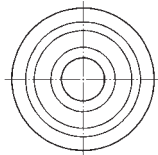
Spannzange mit
Axialausgleich
für Gewindebohrer

Pinzas para roscado
con compensación
axial

Pinces de
taradage avec
compensation axiale

Pinze di maschiatura
con compensazione
assiale

ET-1- ER..




For TOPRUN
spindles,
use ring-nuts
shown in the chart

Bei Verwendung von
TOPRUN-Aufnahmen, die
in der Tabelle angegebenen
Spannmuttern verwenden

Para el empleo en los
mandrinos TOPRUN se
precisa utilizar las tuercas
indicadas en la tabla

Sur mandrins
TOPRUN utiliser les
bagues indiquées
dans le tableau

Per l'utilizzo su
mandrini TOPRUN
utilizzare ghiera
indicate in tabella

REF.	CODE	d	D ₁	L	E	
ET-1-ER25 (M2 ~ M12)	49 60 8 6125280	2.8	26	34	8	10 045 1 01 25 00
	49 60 8 6125350	3.5				
	49 60 8 6125450	4.5				
	49 60 8 6125600	6				
	49 60 8 6125700	7				
	49 60 8 6125900	9				
ET-1-ER32 (M4 ~ M16)	49 60 8 6132450	4.5	33	43	10	10 045 1 03 32 00
	49 60 8 6132600	6				
	49 60 8 6132700	7				
	49 60 8 6132900	9				
	49 60 8 6132110	11				
	49 60 8 6132120	12				
ET-1-ER40 (M8 ~ M20)	49 60 8 6140600	6	41	54	13	10 045 1 03 40 00
	49 60 8 6140700	7				
	49 60 8 6140900	9				
	49 60 8 6140110	11				
	49 60 8 6140120	12				
	49 60 8 6140140	14				
	49 60 8 6140160	16				

On request

Auf Anfrage

A petición

Sur demande

Fornibili su richiesta



Tapping collets
without axial
compensation

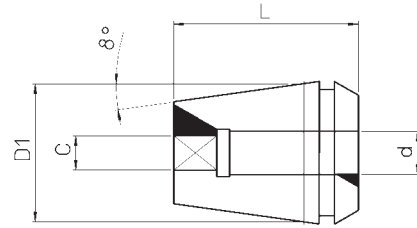
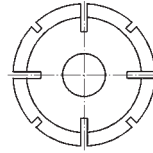
Spannzange zum
starren
Gewindeschneiden

Pinzas para roscado
rígido

Pinces de taradage
sans compensation
axiale

Pinze per
maschiatura rigida

ER.. - GB




For TOPRUN
spindles,
use ring-nuts
shown in the chart

Bei Verwendung von
TOPRUN-Aufnahmen, die
in der Tabelle angegebenen
Spannmuttern verwenden

Para el empleo en los
mandrinos TOPRUN se
precisa utilizar las tuercas
indicadas en la tabla

Sur mandrins
TOPRUN utiliser les
bagues indiquées
dans le tableau

Per l'utilizzo su
mandrini TOPRUN
utilizzare ghiera
indicate in tabella

REF.	CODE	(d Ø x c ∅)	DIN 371	DIN 374-376	D ₁	L	
ER 16-GB (M4 ~ M10)	49 60 8 5116045	4.5 x 3.4	M4	M6	16	27.5	10 045 1 01 16 00
	49 60 8 5116055	5.5 x 4.3	-	M7			
	49 60 8 5116060	6 x 4.9	M5 M6	M8			
	49 60 8 5116070	7 x 5.5	M6	M10			
ER 25-GB (M4 ~ M16)	49 60 8 5125045	4.5 x 3.4	M4	M6	25	34	10 045 1 01 25 00
	49 60 8 5125055	5.5 x 4.3	-	M7			
	49 60 8 5125060	6 x 4.9	M5 M6	M8			
	49 60 8 5125070	7 x 5.5	-	M10			
	49 60 8 5125090	9 x 7	-	M12			
	49 60 8 5125110	11 x 9	-	M14			
	49 60 8 5125120	12 x 9	-	M16			
ER 32-GB (M4 ~ M20)	49 60 8 5132045	4.5 x 3.4	M4	M6	32	40	10 045 1 03 32 00
	49 60 8 5132055	5.5 x 4.3	-	M7			
	49 60 8 5132060	6 x 4.9	M5 M6	M8			
	49 60 8 5132070	7 x 5.5	-	M10			
	49 60 8 5132090	9 x 7	-	M12			
	49 60 8 5132110	11 x 9	-	M14			
	49 60 8 5132120	12 x 9	-	M16			
	49 60 8 5132140	14 x 11	-	M18			
	49 60 8 5132160	16 x 12	-	M20			
ER 40-GB (M10 ~ M27)	49 60 8 5140070	7 x 5.5	-	M10	40	46	10 045 1 03 40 00
	49 60 8 5140090	9 x 7	-	M12			
	49 60 8 5140110	11 x 9	-	M14			
	49 60 8 5140120	12 x 9	-	M16			
	49 60 8 5140140	14 x 11	-	M18			
	49 60 8 5140160	16 x 12	-	M20			
	49 60 8 5140180	18 x 14.5	-	M22 M24			
	49 60 8 5140200	20 x 16	-	M27			

On request

Auf Anfrage

A petición

Sur demande

Fornibili su richiesta

Quick change tap holders without torque clutch

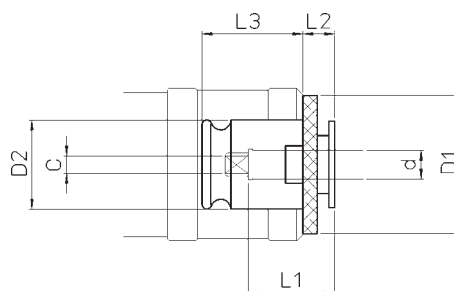
Schnellwechselfutter für Gewindebohrer ohne Drehmomentkupplung

Manguitos de cambio rápido sin limitación de par

Adaptateurs porte-taroud sans limiteur de couple

Bussole a cambio rapido senza limitazione di coppia

BFC



REF.	CODE	(d Ø x c ∇)	DIN 371	DIN 374	DIN 376	D ₁	D ₂	L ₁	L ₂	L ₃
BFC1 (M3 ~ 12)	49 50 6 1035027	3.5 x 2.7	M3	M5	M5	30	19	17	7	21.5
	49 50 6 1045034	4.5 x 3.4	M4	M6	M6					
	49 50 6 1055043	5.5 x 4.3	-	M7	M7					
	49 50 6 1060049	6 x 4.9	M5	M8	M8					
			M6							
	49 50 6 1070055	7 x 5.5	-	M10	M10					
49 50 6 1090070	9 x 7	-	M12	M12						
BFC2 (M6 ~ 20)	49 50 6 2060049	6 x 4.9	M5	M8	M8	48	31	30	11	35
			M6							
	49 50 6 2070055	7 x 5.5	-	M10	M10					
	49 50 6 2090070	9 x 7	-	M12	M12					
	49 50 6 2110090	11 x 9	-	M14	M14					
	49 50 6 2120090	12 x 9	-	M16	M16					
	49 50 6 2140110	14 x 11	-	M18	M18					
49 50 6 2160120	16 x 12	-	M20	M20						
BFC3 (M14 ~ 33)	49 50 6 3110090	11 x 9	-	M14	M14	70	48	44	14	55.5
	49 50 6 3120090	12 x 9	-	M16	M16					
	49 50 6 3140110	14 x 11	-	M18	M18					
	49 50 6 3160120	16 x 12	-	M20	M20					
	49 50 6 3180145	18 x 14.5	-	M22	M22					
			-	M24	M24					
	49 50 6 3200160	20 x 16	-	M27	M27					
	49 50 6 3220180	22 x 18	-	M30	M30					
49 50 6 3250200	25 x 20	-	M33	M33						

On request

Auf Anfrage

A petición

Sur demande

Fornibili su richiesta

Quick change tap holders with torque clutch

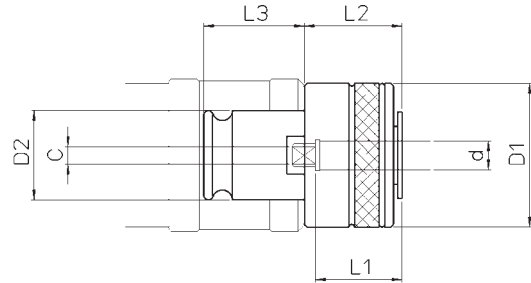
Schnellwechselfutter für Gewindebohrer mit Drehmomentkupplung

Manguitos de cambio rápido con limitación de par

Adaptateurs porte-taroud avec limiteur de couple

Bussole a cambio rapido con limitazione di coppia

BFS



REF.	CODE	($d_1\varnothing \times c\varnothing$)	DIN 371	DIN 374	DIN 376	D ₁	D ₂	L ₁	L ₂	L ₃
BFS1 (M3 ~ 12)	49 50 7 1035027	3.5 x 2.7	M3	M5	M5	32	19	17	25	21.5
	49 50 7 1040030	4 x 3	M3.5	-	-					
	49 50 7 1045034	4.5 x 3.4	M4	M6	M6					
	49 50 7 1055043	5.5 x 4.3	-	M7	M7					
	49 50 7 1060049	6 x 4.9	M5	M8	M8					
			M6							
	49 50 7 1070055	7 x 5.5	-	M10	M10					
	49 50 7 1080062	8 x 6.2	M8	-	-					
	49 50 7 1090070	9 x 7	-	M12	M12					
49 50 7 1100080	10 x 8	M10	-	-						
BFS2 (M6 ~ 20)	49 50 7 2060049	6 x 4.9	M5	M8	M8	50	31	30	34	35
			M6							
	49 50 7 2070055	7 x 5.5	-	M10	M10					
	49 50 7 2080062	8 x 6.2	M8	-	-					
	49 50 7 2090070	9 x 7	-	M12	M12					
	49 50 7 2100080	10 x 8	M10	-	-					
	49 50 7 2110090	11 x 9	-	M14	M14					
	49 50 7 2120090	12 x 9	-	M16	M16					
	49 50 7 2140110	14 x 11	-	M18	M18					
49 50 7 2160120	16 x 12	-	M20	M20						
BFS3 (M14 ~ 33)	49 50 7 3110090	11 x 9	-	M14	M14	72	48	44	45	55.5
	49 50 7 3120090	12 x 9	-	M16	M16					
	49 50 7 3140110	14 x 11	-	M18	M18					
	49 50 7 3160120	16 x 12	-	M20	M20					
			-	M22	M22					
	49 50 7 3180145	18 x 14.5	-	M24	M24					
			-	M27	M27					
	49 50 7 3200160	20 x 16	-	M30	M30					
49 50 7 3220180	22 x 18	-	M33	M33						
49 50 7 3250200	25 x 20	-	-	-						

On request

Auf Anfrage

A petición

Sur demande

Fornibili su richiesta

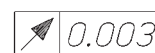
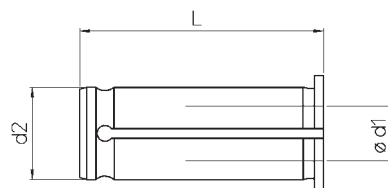
Bushes for
ultra-tight spindle

Spannhülsen für
Aufnahmen mit hoher
Klemmkraft

Pinzas para mandrino
de fuerte bloqueo

Douilles pour
mandrin
à serrage fort

Bussola per mandrino
a forte serraggio



RC
METRIC

METRIC

FORCE (d ₂)	REF.	CODE	d ₁	L
12	RC 12.04	49 70 8 0012040	4	44
	RC 12.06	49 70 8 0012060	6	
	RC 12.08	49 70 8 0012080	8	
	RC 12.10	49 70 8 0012100	10	
20	RC 20.03	49 70 8 0020030	3	50
	RC 20.04	49 70 8 0020040	4	
	RC 20.05	49 70 8 0020050	5	
	RC 20.06	49 70 8 0020060	6	
	RC 20.08	49 70 8 0020080	8	
	RC 20.10	49 70 8 0020100	10	
	RC 20.12	49 70 8 0020120	12	
	RC 20.14	49 70 8 0020140	14	
32	RC 20.16	49 70 8 0020160	16	63
	RC 32.03	49 70 8 0032030	3	
	RC 32.04	49 70 8 0032040	4	
	RC 32.05	49 70 8 0032050	5	
	RC 32.06	49 70 8 0032060	6	
	RC 32.08	49 70 8 0032080	8	
	RC 32.10	49 70 8 0032100	10	
	RC 32.12	49 70 8 0032120	12	
	RC 32.14	49 70 8 0032140	14	
	RC 32.16	49 70 8 0032160	16	
	RC 32.18	49 70 8 0032180	18	
	RC 32.20	49 70 8 0032200	20	
RC 32.25	49 70 8 0032250	25		



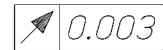
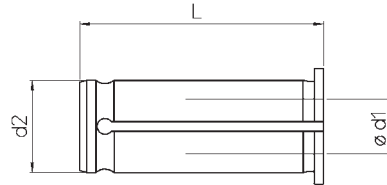
Bushes for
ultra-tight spindle

 Spannhülsen für
Aufnahmen mit hoher
Klemmkraft

 Pinzas para mandrino
de fuerte bloqueo

 Douilles pour
mandrin
à serrage fort

 Bussole per mandrino
a forte serraggio

 RC
INCH


INCH

FORCE (d ₂)	REF.	CODE	d ₁	L
1/2"	RC 1/2.1/4	49 70 8 0013063	1/4"	1.73"
	RC 1/2.5/16	49 70 8 0013079	5/16"	
	RC 1/2.3/8	49 70 8 0013095	3/8"	
3/4"	RC 3/4.1/4	49 70 8 0019063	1/4"	1.97"
	RC 3/4.5/16	49 70 8 0019079	5/16"	
	RC 3/4.3/8	49 70 8 0019095	3/8"	
	RC 3/4.7/16	49 70 8 0019111	7/16"	
	RC 3/4.1/2	49 70 8 0019127	1/2"	
	RC 3/4.5/8	49 70 8 0019158	5/8"	
1-1/4"	RC 1-1/4.3/8	49 70 8 0031095	3/8"	2.48"
	RC 1-1/4.1/2	49 70 8 0031127	1/2"	
	RC 1-1/4.5/8	49 70 8 0031158	5/8"	
	RC 1-1/4.3/4	49 70 8 0031190	3/4"	
	RC 1-1/4.1	49 70 8 0031254	1"	

Reductions

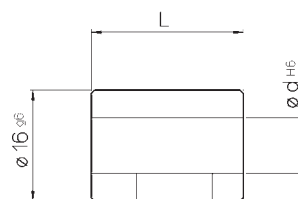
Reduzierungen

Reducciones

Réductions

Riduzione

D..



REF.	CODE	L	Ø d H ₆
D04.16	20 056 01 16 04 0	23	4
D08.16	20 056 01 16 08 2	22	8
D10.16	20 056 01 16 10 0	23	10
D12.16	20 056 01 16 12 0	23	12

ER

REF.	CODE 1	d ₁	CODE 2	d ₂	CODE 3	CODE 4
ER 16	20 108 20 10 001	5 ~ 10	20 108 20 10 002	1 ~ 4	10 045 1 01 16 00	10 150 10 0 1600
ER 25	20 108 20 18 001	8 ~ 16	20 108 20 18 002	2 ~ 7	10 045 1 03 25 00	10 150 10 0 2501
ER 32	20 108 20 22 001	8 ~ 20	20 108 20 22 002	3 ~ 7	10 045 1 03 32 00	10 150 10 0 3201
ER 40	20 108 20 28 001	9 ~ 26	20 108 20 28 002	4 ~ 8	10 045 1 03 40 00	10 150 10 0 4001

WD

fig.	REF. METRIC	CODE 1	fig.	REF. INCH	CODE 1
1	WD 06	20 010 019 0610	1	WLD 1/4"	20 010 019 0603
1	WD 08	20 010 019 0810	1	WLD 3/8"	20 010 019 0902
1	WD 10	20 010 019 1010	2		20 010 019 0904
1	WD 12	20 010 019 1212	1	WLD 1/2"	20 010 019 1103
1	WD 14	20 010 019 1212	1	WLD 5/8"	20 010 019 1402
1	WD 16	20 010 019 1414	1	WLD 3/4"	20 010 019 1581
1	WD 18	20 010 019 1414	2		20 010 019 1585
1	WD 20	20 010 019 1616	1	WLD 1"	20 010 019 1901
2		20 010 019 1613	2		20 010 019 1903
1	WD 25	20 010 019 1820	1	WLD 1-1/4"	20 010 019 1901
2		20 010 019 1821	2		20 010 019 1586
1	WD 32	20 010 019 2020	-	-	-
1	WD 40	20 010 019 2020	-	-	-

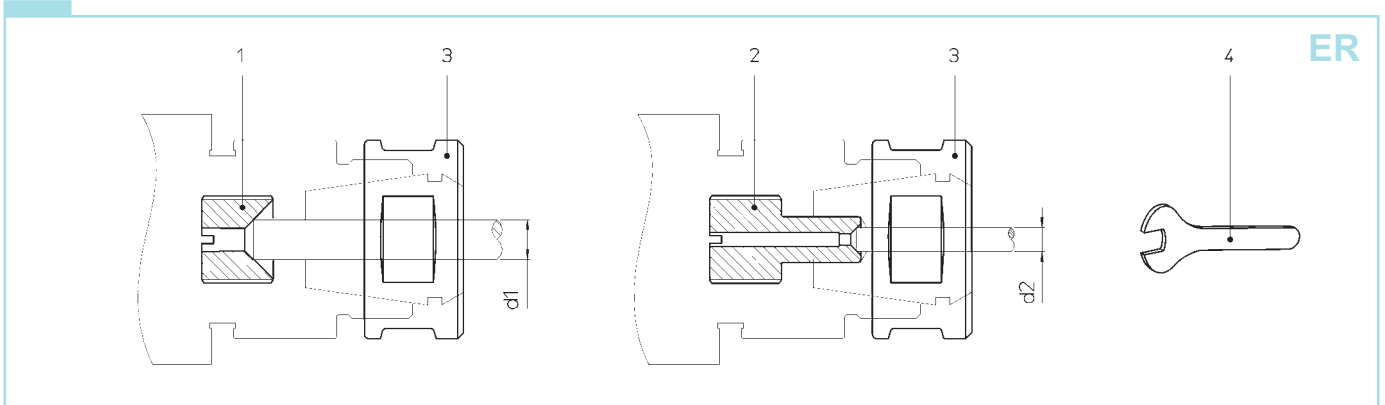
PF

METRIC

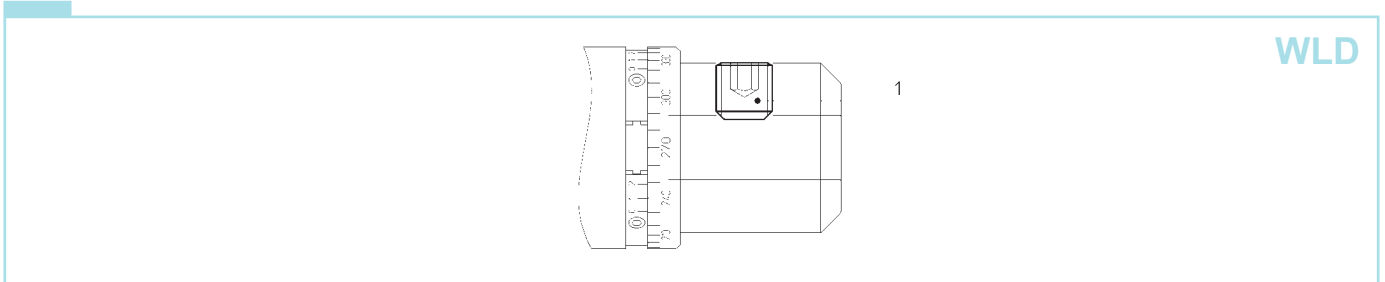
REF.	CODE 1	CODE 2	CODE 3	CODE 4
PF 16	20 101 0085 01 0	10 010 1 080 025	20 110 18 008 01	10 005 1 030 008
PF 22	20 101 0105 03 0	10 010 1 100 025	20 110 18 010 02	10 005 1 040 010
PF 27	20 101 0125 03 0	10 010 1 120 030	20 110 18 012 02	10 005 1 050 012
PF 32	20 101 0165 02 0	10 010 1 160 035	20 110 18 014 02	10 005 1 060 016
PF 40	20 101 0210 01 0	10 010 1 200 045	20 110 18 016 06	10 005 1 060 018
PF 60	-	-	20 110 18 025 10	10 005 1 120 025

INCH

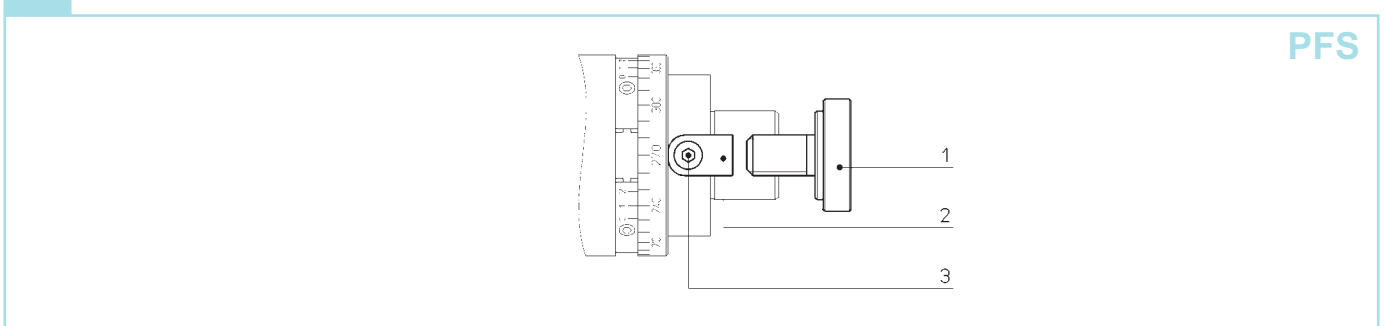
REF.	CODE 1	CODE 3	CODE 4
PF 3/4"	20 108 02 95 001	20 110 18 079 01	10 005 1 040 010
PF 1"	20 108 02 12 001	20 110 18 095 01	10 005 1 050 012
PF 1-1/4"	20 108 02 16 001	20 110 18 124 01	10 005 1 060 014
PF 1-1/2"	20 108 02 19 001	20 110 18 159 01	10 005 1 060 018



REF.	CODE 1	d ₁	CODE 2	d ₂	CODE 3	CODE 4
ER 16	20 108 20 10 001	5 ~ 10	20 108 20 10 002	1 ~ 4	20 104 19 100 01	20 127 150 2200
ER 25	20 108 20 18 001	8 ~ 16	20 108 20 18 002	2 ~ 7	20 104 30 100 02	20 127 150 3400
ER 32	20 108 20 22 001	8 ~ 20	20 108 20 22 002	3 ~ 7	20 104 40 150 01	20 127 150 4500
ER 40	20 108 20 28 001	9 ~ 26	20 108 20 28 002	4 ~ 8	20 104 50 150 01	20 127 150 5500



REF. METRIC	CODE 1	REF. INCH	CODE 1
WLD 06	20 010 019 0610	WLD 3/8"	20 010 019 0904
WLD 08	20 010 019 0810	WLD 1/2"	20 010 019 1103
WLD 10	20 010 019 1010	WLD 5/8"	20 010 019 1402
WLD 12	20 010 019 1212	WLD 3/4"	20 010 019 1581
WLD 16	20 010 019 1414	WLD 1"	20 010 019 1901
WLD 20	20 010 019 1616	WLD 1-1/4"	20 010 019 1901
WLD 25	20 010 019 1820	-	-
WLD 32	20 010 019 2020	-	-
WLD 40	20 010 019 2020	-	-



REF. METRIC	CODE 1	CODE 2	CODE 3	REF. INCH	CODE 1	CODE 2	CODE 3
PFS 16	20 108 03 08 001	20 110 18 008 01	10 005 1 030 008	PFS 3/4"	20 108 02 95 002	20 110 18 079 01	10 005 1 040 010
PFS 22	20 108 03 10 001	20 110 18 010 02	10 005 1 040 010	PFS 1"	20 108 02 12 002	20 110 18 095 02	10 005 1 040 012
PFS 27	20 108 03 12 001	20 110 18 012 02	10 005 1 050 012	PFS 1-1/4"	20 108 02 16 002	20 110 18 127 01	10 005 1 050 016
PFS 32	20 108 03 16 001	20 110 18 014 02	10 005 1 060 016	PFS 1-1/2"	20 108 02 19 002	20 110 18 159 01	10 005 1 060 020
PFS 40	20 108 03 20 001	20 110 18 016 03	10 005 1 060 018	-	-	-	-

MONOforce - TOPRUN - MODULHARD'ANDREA

Setting screw for
internal coolant supply

Einstellschraube für
innere Kühlmittelzufuhr

Tornillo regulación
paso refrigerante

Vis de réglage pour
l'alimentation
de refroidissement.

Vite regolazione con
passaggio refrigerante

VCR

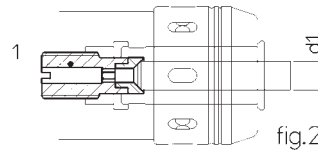
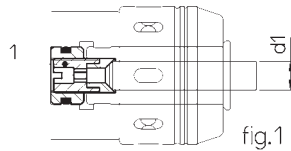
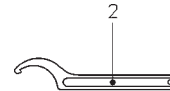
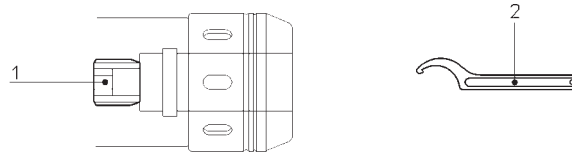


fig.	REF.METRIC	CODE 1	d ₁	fig.	REF.INCH	CODE 1	d ₁
1	VCR 20 MF 20	38 20 41 020062	06 ~ 12	1	VCR 3/4" MF 3/4"	38 20 41 019069	1/4" ~ 7/16"
	HSK63 MHD'50	38 20 41 020142	14 ~ 20		HSK63 MHD'50	38 20 41 019129	1/2" ~ 3/4"
1	VCR 32 MF 32 HSK63 MHD'63	38 20 41 032063	06 ~ 12	1	VCR 1-1/4" MF 1-1/4" HSK63 MHD'63	38 20 41 031099	3/8" ~ 1/2"
		38 20 41 032143	14 ~ 20			38 20 41 031159	5/8" ~ 3/4"
		38 20 41 032253	25 ~ 32			38 20 41 031259	1" ~ 1-1/4"
2	VCR 20 MF 20 DIN/BT-40-50	38 20 41 020061	06 ~ 12	2	VCR 3/4" MF 3/4" CAT40-50	38 20 41 019063	1/4" ~ 7/16"
		38 20 41 020141	14 ~ 20			38 20 41 019127	1/2" ~ 3/4"
2	VCR 32 MF 32 DIN/BT-40	38 20 41 032061	06 ~ 12	2	VCR 1-1/4" MF 1-1/4" CAT40-50	38 20 41 031095	3/8" ~ 1/2"
		38 20 41 032141	14 ~ 20			38 20 41 031158	5/8" ~ 3/4"
		38 20 41 032251	25 ~ 32			38 20 41 031254	1" ~ 1-1/4"
2	VCR 32 MF32 DIN/BT-50	38 20 41 032062	06 ~ 12				
		38 20 41 032142	14 ~ 20				
		38 20 41 032252	25 ~ 32				

FORCE



REF. METRIC	CODE 1	CODE 2	REF. INCH	CODE 1	CODE 2
FORCE 12	20 010 019 1014	10 150 04 0 0028	FORCE 1/2"	20 010 019 0802	10 150 04 0 0028
FORCE 20	20 010 019 1615	10 150 04 0 0050	FORCE 3/4"	20 010 019 1582	10 150 04 0 0050
FORCE 32	20 010 019 1615	10 150 04 0 0075	FORCE 1 - 1/4"	20 010 019 1582	10 150 04 0 0075

Sealing device for high pressure coolant supply

Dichtvorrichtung für Hochdruck-Kühlmittelzufuhr

Dispositivos de retención para refrigerante a alta presión

Système d'étanchéité pour l'alimentation de refroidissement haute pression.

Dispositivi a tenuta per refrigerante ad alta pressione

GH - VT

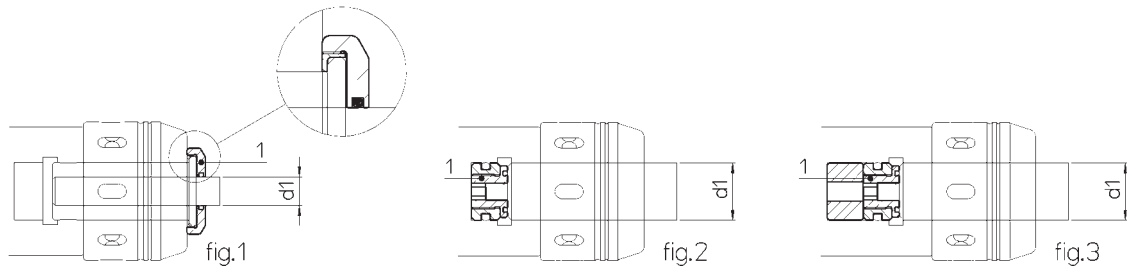
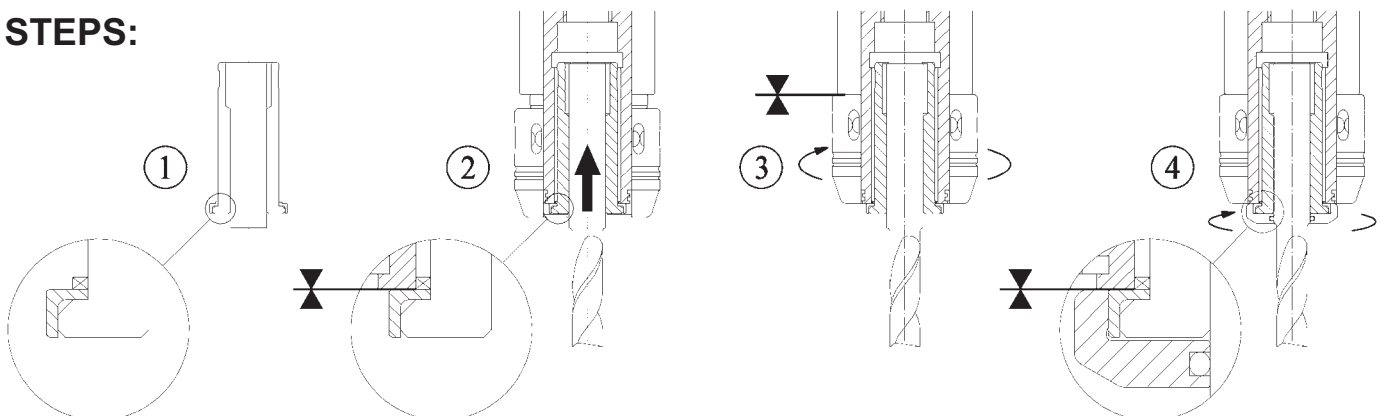
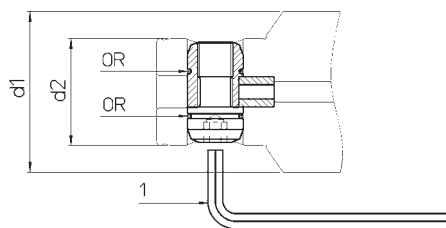


fig.	REF.METRIC	CODE 1	d ₁	fig.	REF.INCH	CODE 1	d ₁
1	GH 20 MF 20 DIN/BT-40-50 HSK/63 MHD'50	38 20 42 020061	06	1	GH 3/4 MF 3/4" CAT40-50 MHD'50	38 20 42 019063	1/4"
		38 20 42 020081	08			38 20 42 019079	5/16"
		38 20 42 020101	10			38 20 42 019095	3/8"
		38 20 42 020121	12			38 20 42 019111	7/16"
		38 20 42 020141	14			38 20 42 019127	1/2"
		38 20 42 020161	16			38 20 42 019158	5/8"
2	VT 20.20 MF 20 DIN/BT-40-50 HSK/63	38 20 42 020201	20	2	VT 3/4.3/4" MF 3/4" CAT40-50	38 20 42 019190	3/4"
1	GH 32 MF 32 DIN/BT-40-50 HSK/63 MHD'63	38 20 42 032061	06	1	GH 1-1/4" MF 1-1/4" CAT40-50 MHD'63	38 20 42 031095	3/8"
		38 20 42 032081	08			38 20 42 031127	1/2"
		38 20 42 032101	10			38 20 42 031158	5/8"
		38 20 42 032121	12			38 20 42 031190	3/4"
		38 20 42 032141	14			38 20 42 031254	1"
		38 20 42 032161	16				
		38 20 42 032181	18				
		38 20 42 032201	20				
38 20 42 032251	25						
2	VT 32.32 MF 32 DIN/BT-40 HSK/63	38 20 42 032321	32	2	VT 1-1/4".1-1/4" MF 1-1/4" CAT40-50	38 20 42 031317	1-1/4"
3	VT 32.32.100 MF 32 DIN/BT-50	38 20 42 032322	32				

STEPS:

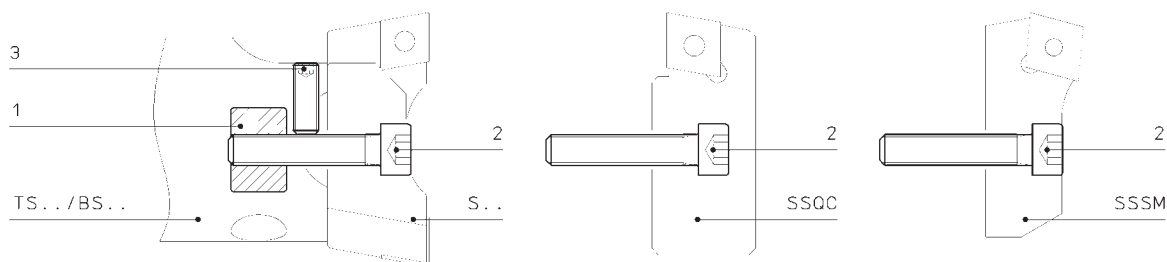


SYSTEM MHD'

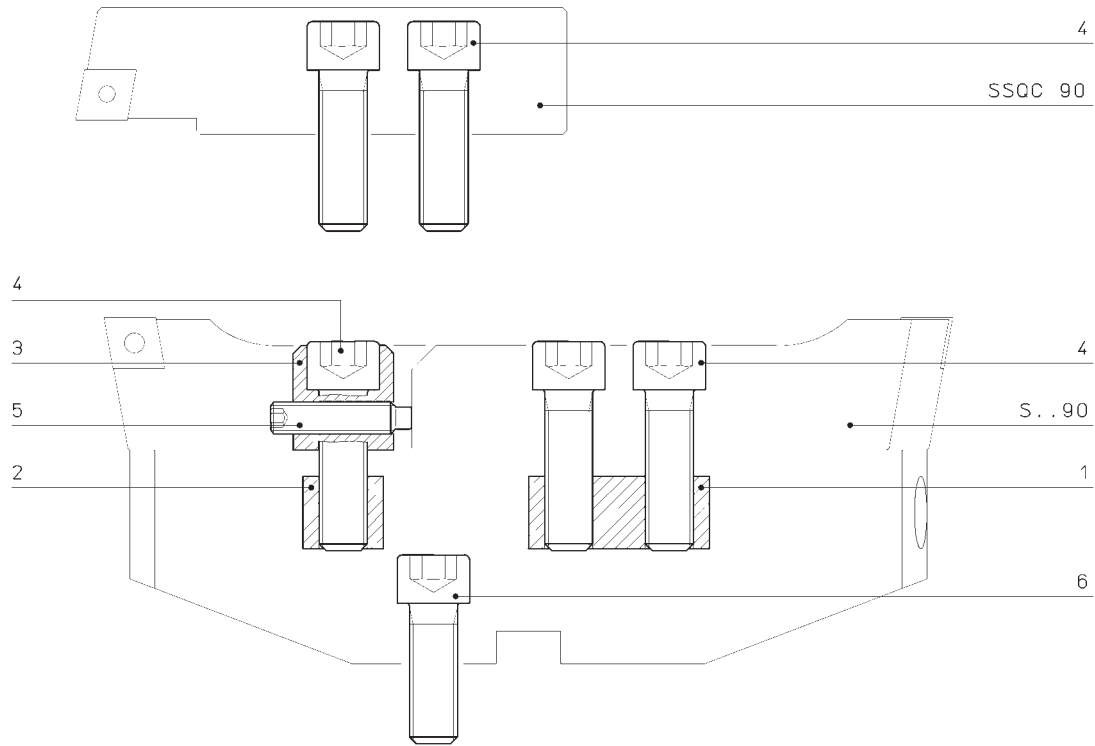


REF.	CODE	d1	d2	CODE 1	CODE OR
MHD' 16	38 17 25 001161	16	10	10 150 01 0 0250	-
MHD' 20	38 17 25 001201	20	13	10 150 01 0 0300	-
MHD' 25	38 17 25 001251	25	16	10 150 01 0 0300	-
MHD' 32	38 17 25 001321	32	20	10 150 01 0 0400	10 125 4 007510
MHD' 40	38 17 25 001401	40	25	10 150 01 0 0500	10 125 4 010010
MHD' 50 (RD50/..)	38 17 25 001501	50	32	10 150 01 0 0600	10 125 4 013010
MHD' 50	38 17 25 001001	50	32	10 150 01 0 0600	10 125 4 013010
MHD' 63 - 80	38 17 25 001002	63 - 80	42	10 150 01 0 0800	10 125 1 002075

TS - BS

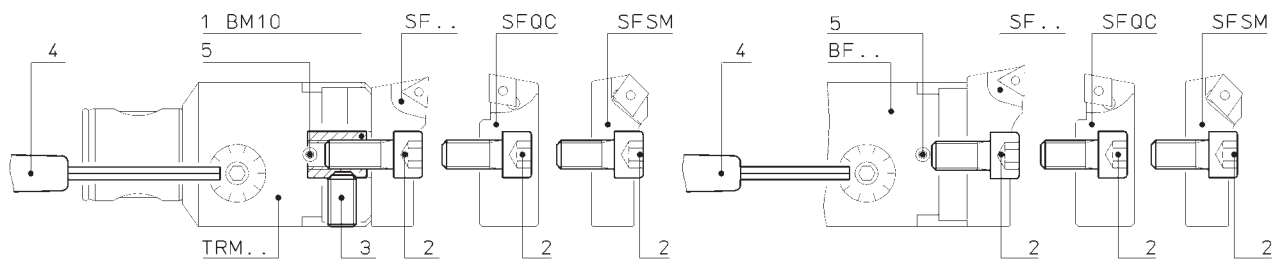


REF.	CODE 1	CODE 2	CODE 3
TS... / 16	20 143 011 0008	10 005 1 030 014	10 023 1 030 004
TS... / 20	20 143 011 0009	10 005 1 040 015	10 023 1 030 005
TS / BS ... / 25	20 143 011 0010	10 005 1 040 020	10 023 1 030 008
TS / BS ... / 32	20 143 011 0011	10 005 1 050 025	10 023 1 040 012
TS / BS ... / 40	20 143 011 0012	10 005 1 060 030	10 023 1 050 014
TS... / 50	20 143 011 0013	10 005 1 080 035	10 023 1 050 012
TS... / 63	20 143 011 0014	10 005 1 100 040	10 023 1 060 016
TS... / 80	20 143 011 0015	10 005 1 120 045	10 023 1 080 025



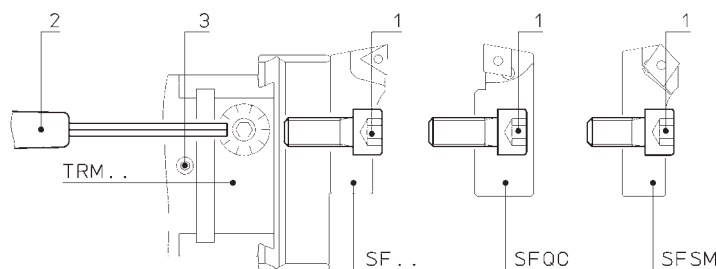
REF.	CODE 1	CODE 2	CODE 3	CODE 4	CODE 5	CODE 6
BPS 200-300-400	20 143 0110017	20 143 011 0016	20 110 05 026 01	10 005 1 120 040	10 025 1 080 040	10 005 1 120 035
BPS 500-600-700						10 005 1 160 050

TRM/BF



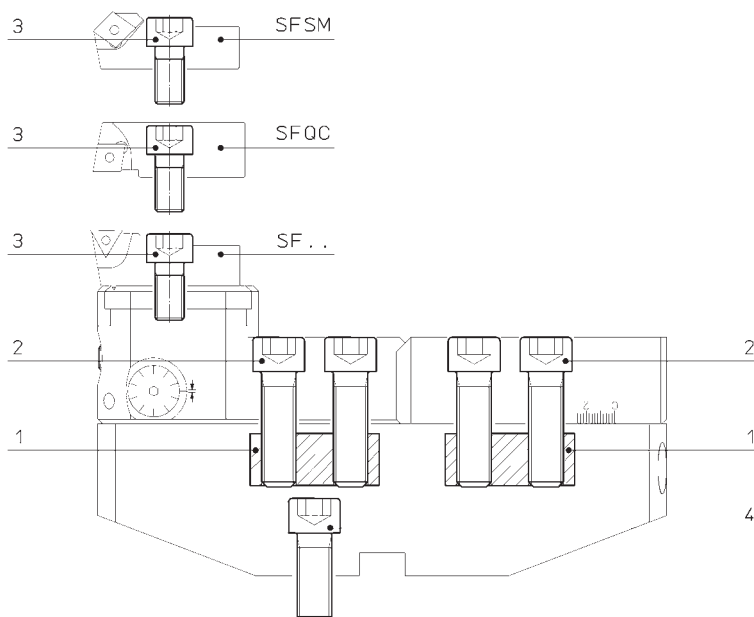
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TRM 50..	20 104 10 150 02	10 005 1 100 025	10 023 1 100 016	10 150 08 0 0250	10 025 1 050 010
TRM / BF .../16	-	10 005 1 030 006	-	10 150 08 0 0150	10 023 1 030 004
TRM / BF .../20	-	10 005 1 040 008	-	10 150 08 0 0150	10 023 1 030 005
TRM / BF .../25	-	10 005 1 050 010	-	10 150 08 0 0200	10 023 1 040 005
TRM / BF .../32	-	10 005 1 060 012	-	10 150 08 0 0200	10 023 1 040 006
TRM / BF .../40	-	10 005 1 080 014	-	10 150 08 0 0250	10 023 1 050 008

TRM



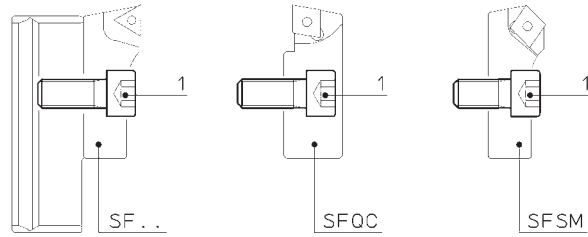
REF.	CODE 1	CODE 2	CODE 3
TRM 63	10 005 1 100 025	10 150 08 0 0300	10 025 1 060 010
TRM 80	10 005 1 100 025	10 150 08 0 0300	10 025 1 060 014
TRM 125	10 005 1 100 025	10 150 08 0 0300	10 025 1 060 022

BPS



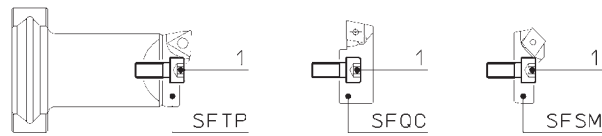
REF.	CODE 1	CODE 2	CODE 3	CODE 4
BPS 200-300-400	20 143 0110017	10 005 1 120 040	10 005 1 100 020	10 005 1 120 035
BPS 500-600-700				10 005 1 160 050

PS..



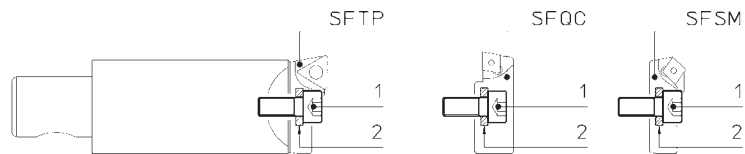
REF.	CODE 1
PS 11.30	10 005 1 100 018
PS 12.30	10 005 1 100 018
PS 13.30	10 005 1 100 018
PS 11.40	10 005 1 100 025
PS 12.40	10 005 1 100 025
PS 13.40	10 005 1 100 025
PS 14.40	10 005 1 100 025

P..



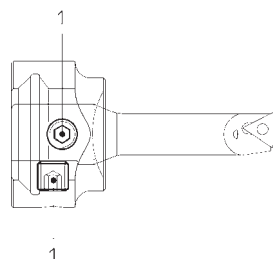
REF.	CODE 1
P02.30	10 005 1 050 012
P03.30	10 005 1 050 012
P04.30	10 005 1 050 012
P02.40	10 005 1 060 018
P03.40	10 005 1 060 018
P04.40	10 005 1 060 018

P 25.63



REF.	CODE 1	CODE 2
P25.63	10 005 1 050 012	10 080 01 0053 0

P 20.30

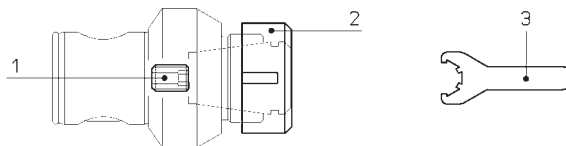


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P20.30	10 025 1 080 008

MODULHARD'ANDREA

PE

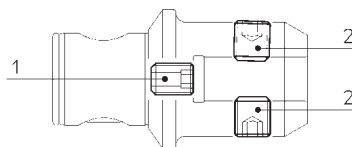
ER DIN 6499



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PE 16 / ER11M	20 010 019 0403	10 045 1 01 11 00	10 150 10 0 1100
PE 20 / ER16M	20 010 019 0403	10 045 1 01 16 00	10 150 10 0 1600
PE 25 / ER20M	20 010 019 0506	10 045 1 01 20 00	10 150 10 0 2000
PE 32 / ER25M	20 010 019 0608	10 045 1 01 25 00	10 150 10 0 2500
PE 40 / ER25	20 010 019 0808	10 045 1 03 25 00	10 150 10 0 2501
PE 50 / ER25	20 010 019 0808	10 045 1 03 25 00	10 150 10 0 2501
PE 50 / ER32	20 010 019 0808	10 045 1 03 32 00	10 150 10 0 3201
PE 63 / ER32	20 010 019 1014	10 045 1 03 32 00	10 150 10 0 3201
PE 63 / ER40	20 010 019 1214	10 045 1 03 40 00	10 150 10 0 4001

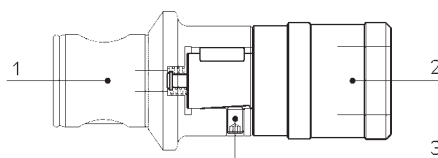
AW

DIN 1835 B-E



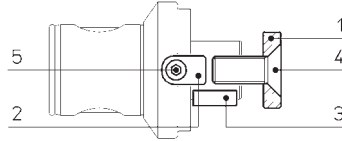
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AW 50/6	20 010 019 0808	20 010 019 0610	AW 50 1/4	20 010 019 0801	20 010 019 0601
AW 50/8	20 010 019 0808	20 010 019 0810	AW 50 3/8	20 010 019 0802	20 010 019 0901
AW 50/10	20 010 019 0809	20 010 019 1012	AW 50 1/2	20 010 019 0802	20 010 019 1101
AW 50/12	20 010 019 0809	20 010 019 1216	AW 50 5/8	20 010 019 1102	20 010 019 1401
AW 50/14	20 010 019 0809	20 010 019 1216	AW 50 3/4	20 010 019 1102	20 010 019 1581
AW 50/16	20 010 019 1215	20 010 019 1416	AW 63 1/2	20 010 019 0802	20 010 019 1101
AW 50/20	20 010 019 1215	20 010 019 1616	AW 63 5/8	20 010 019 1102	20 010 019 1401
AW 50/25	20 010 019 1615	20 010 019 1820	AW 63 3/4	20 010 019 1102	20 010 019 1581
AW 63/16	20 010 019 1215	20 010 019 1416	AW 63 1	20 010 019 1582	20 010 019 1901
AW 63/20	20 010 019 1215	20 010 019 1616	AW 63 1 - 1/4	20 010 019 1582	20 010 019 1901
AW 63/25	20 010 019 1615	20 010 019 1820	AW 80 1 - 1/2	20 010 019 1902	20 010 019 1901
AW 63/32	20 010 019 1615	20 010 019 2020	AW 80 2	20 010 019 1902	20 010 019 2540
AW 80/40	20 010 019 2019	20 010 019 2020	-	-	-

AM



REF.	REF. 1	CODE 1	REF. 2	CODE 2	CODE 3
AM 50/M3-12	RAM 50/M3-12	45 65 050 0010 0	WFLK 115B/A 308	49 50 9 0010312	10 023 1 060 008
AM 50/M8-20	RAM 50/M8-20	45 65 050 0020 0	WFLK 225B/A 308	49 50 9 0020820	10 023 1 080 012
AM 63/M3-12	RAM 63/M3-12	45 65 063 0010 0	WFLK 115B/A 308	49 50 9 0010312	10 023 1 060 008
AM 63/M8-20	RAM 63/M8-20	45 65 063 0020 0	WFLK 225B/A 308	49 50 9 0020820	10 023 1 080 012

PF



METRIC

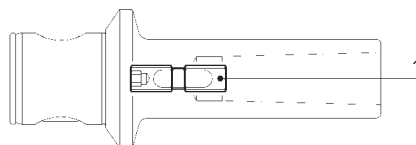
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PF 50/16 PF 40/16	20 101 0085 01 0	20 110 18 008 01	10 100 1 040 014	10 010 1 080 025	10 005 1 030 008
PF 50/22 PF 40/22	20 101 0105 03 0	20 110 18 010 02	10 100 1 060 016	10 010 1 100 025	10 005 1 040 010
PF 50/27	20 101 0125 03 0	20 110 18 012 02	10 100 1 070 018	10 010 1 120 030	10 005 1 050 012
PF 50/32	20 101 0165 02 0	20 110 18 014 02	10 100 1 080 020	10 010 1 160 035	10 005 1 060 016
PF 63/27	20 101 0125 03 0	20 110 18 012 02	10 100 1 070 018	10 010 1 120 030	10 005 1 050 012
PF 63/32	20 101 0165 02 0	20 110 18 014 02	10 100 1 080 020	10 010 1 160 035	10 005 1 060 016
PF 80/32	20 101 0165 02 0	20 110 18 014 02	10 100 1 080 020	10 010 1 160 035	10 005 1 060 016
PF 80/40	20 101 0210 01 0	20 110 18 016 03	10 100 1 100 025	10 010 1 200 045	10 005 1 060 018
PF 80/60	-	20 110 18 025 10	-	-	10 005 1 120 025

INCH

REF.	CODE 1	CODE 2	CODE 3	CODE 5
PF 50 3/4	20 108 02 95 001	20 110 18 079 01	20 110 18 035 01	10 005 1 040 010
PF 50 1	20 108 02 12 001	20 110 18 095 01	20 110 18 006 01	10 005 1 050 012
PF 63 3/4	20 108 02 95 001	20 110 18 079 01	20 110 18 035 01	10 005 1 040 010
PF 63 1	20 108 02 12 001	20 110 18 095 01	20 110 18 006 01	10 005 1 050 012
PF 63 1 - 1/4	20 108 02 16 001	20 110 18 124 01	20 110 18 007 02	10 005 1 060 014
PF 80 1 - 1/2	20 108 02 19 001	20 110 18 159 01	20 110 18 009 03	10 005 1 060 018
PF 80 2	20 108 02 25 001	20 110 18 187 01	-	10 005 1 060 025

CM

DIN 228 A



REF.	CODE 1
CM 50/1	20 108 15 06 003
CM 50/2	20 108 15 10 002
CM 50/3	20 108 15 12 004
CM 63/3	20 108 15 12 004
CM 63/4	20 108 15 16 001

