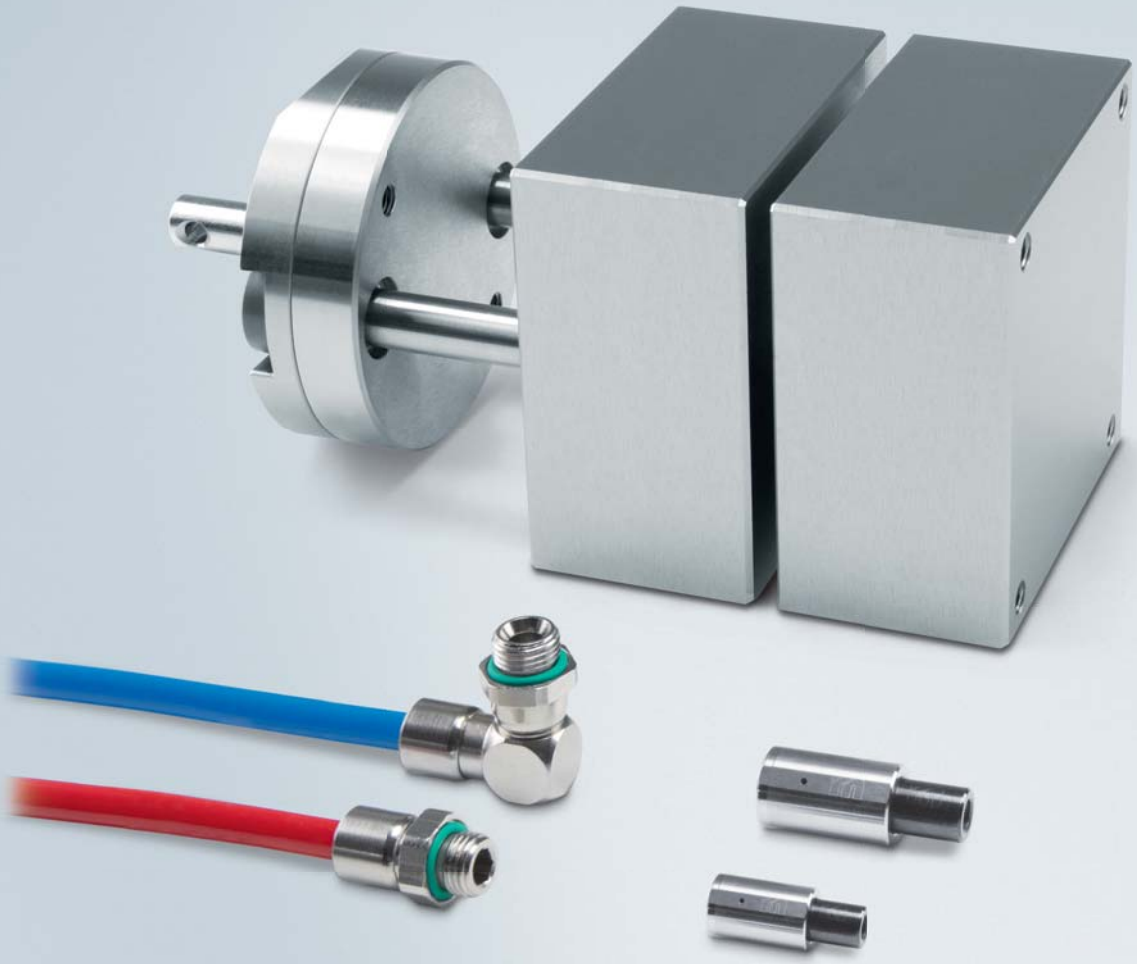
FM – Mikroformen

mit Zubehör

FM – Micro moulds

and accessories



neusburger®

FM – Mikroformen mit Zubehör
FM – Micro moulds and accessories

Die einbaufertigen Formaufbauten für den Mikrospritzguss sind für den Einsatz in Babyplastmaschinen konzipiert und können flexibel und einfach konfiguriert sowie bestellt werden. Standardisierte Auswerferpaketsysteme mit präziser Positionierung der Auswerfer und optimal abgestimmter Führung sind in zwei verschiedenen Ausführungen ab Lager lieferbar. Erhältlich ist außerdem eine große Auswahl an einbaufertigen Formplatten in verschiedenen Materialqualitäten. Das auf den Mikrospritzguss abgestimmte Zubehör rundet das Sortiment ab.

The ready-to-use micro moulds have been especially designed for use on Babyplast machines. Configuration, customisation and ordering of these mould tools is easy and simple. The standardised ejector set systems enable precise positioning of the ejectors and are equipped with an optimal guiding system. They are available from stock in two versions. We also offer a large range of ready-to-use mould tools in various materials, and numerous accessories which have been especially adapted for micro injection moulding.

» Einbaufertige Mikroformen, speziell für Babyplastmaschinen konzipiert
» Ready-to-use micro moulds, especially designed for use on Babyplast machines

» Aufbauten online flexibel und einfach konfigurierbar
» Easy online configuration and customisation of the mould tools

» 2 unterschiedliche Auswerferpaketsysteme mit präziser Positionierung der Auswerfer
» 2 different ejector set systems enabling precise positioning of the ejectors

» Große Auswahl an Materialqualitäten
» Wide range of materials

» Umfangreiches Zubehörprogramm erhältlich
» Numerous accessories available

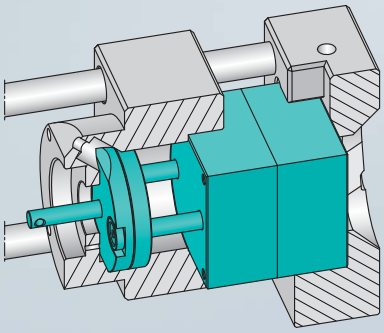
FM – Mikroformen
FM – Micro moulds

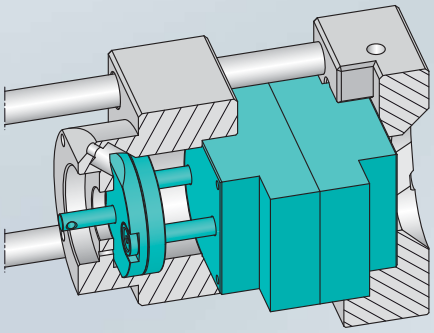
Zubehör
Accessories

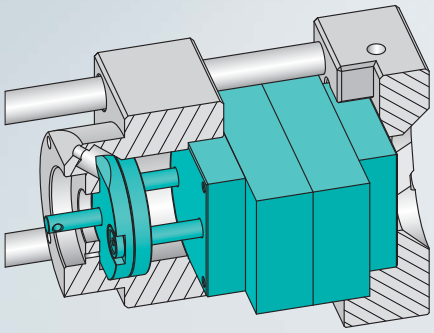


Übersicht, technische Informationen
Overview and technical information

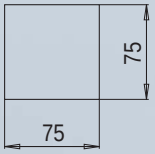
Flexibel gestaltbare FM – Mikroformen:
Customisable FM – Micro moulds:



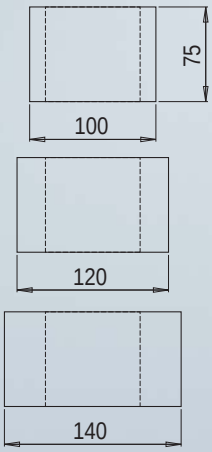




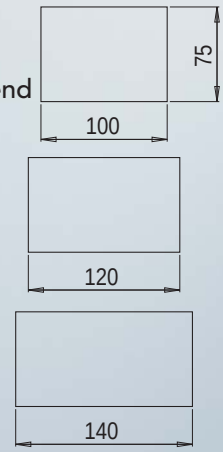
FM 50, FM 51
Formplatten
Cavity plates



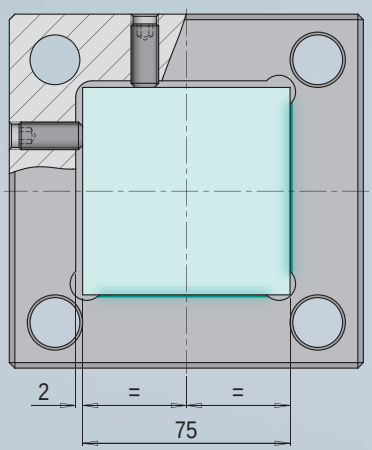
FM 54, FM 55
Formplatten mit Aufsatz
T-shaped cavity plates

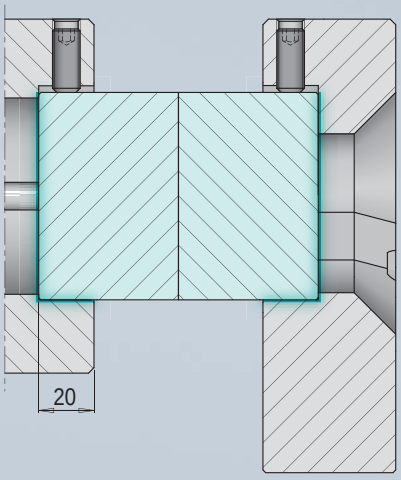


FM 58
Formplatten, Breite überstehend
Cavity plates, width salient

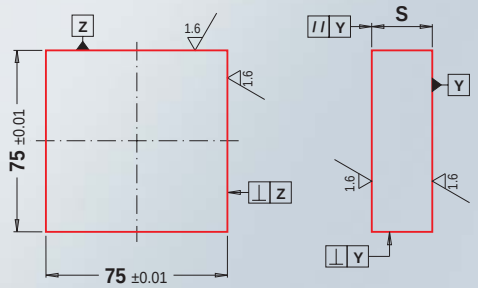


Die Zentrierung des Werkzeuges innerhalb der Babyplastmaschine erfolgt über zwei Auflageflächen an der Maschinenplatte.
Centring of the workpiece on the Babyplast machine is made through two supporting faces on the machine plate.



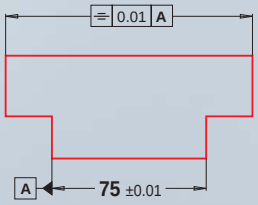


Die einbaufertigen Formplatten sind mit umlaufenden Bezugskanten konzipiert und liegen im Toleranzbereich von ±0,01mm. Dies ermöglicht höchste Präzision bei der Einbringung der Kavität in die Formplatte.
The ready-to-use cavity plates have all-round reference edges and are machined to a tolerance of ± 0.01mm. This enables highest precision when making the cavity.



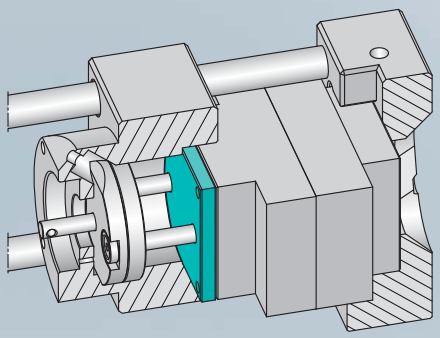
	FM
// Y	0.006 / 100
⊥ Y	0.02 / 100
⊥ Z	0.02 / 100

Bei den Formplatten mit Aufsatz ist der Überstand zusätzlich als Bezugskante ausgelegt.
On T-shaped cavity plates the projecting end is also a reference edge.

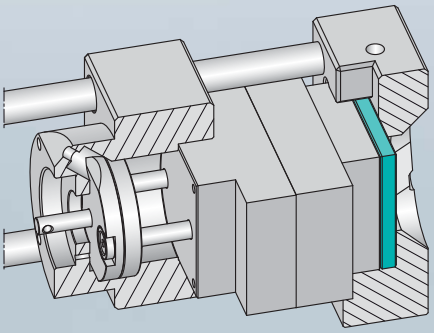


Einbaumöglichkeiten der Zwischenplatte:
Backing plate mounting options:

Kernhalteplatte
core retainer plate

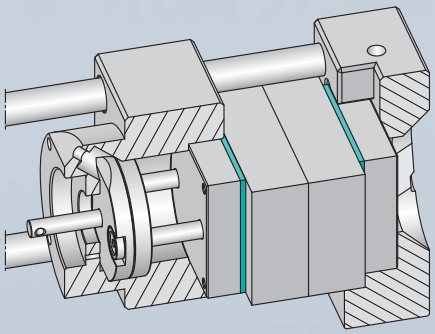


Heißkanal-Zwischenplatte
hot runner backing plate

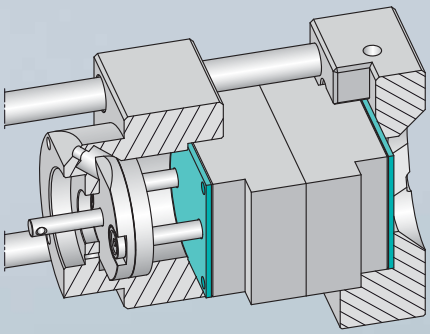


Bei Einbau der Wärmeschutzplatten **zwischen** den Formplatten wird eine ideale Wärmeabschirmung gewährleistet.
An optimal heat shield is created with the insertion of insulation boards **between** the cavity plates.

Ideal:
Best:



Optional:
Alternative:



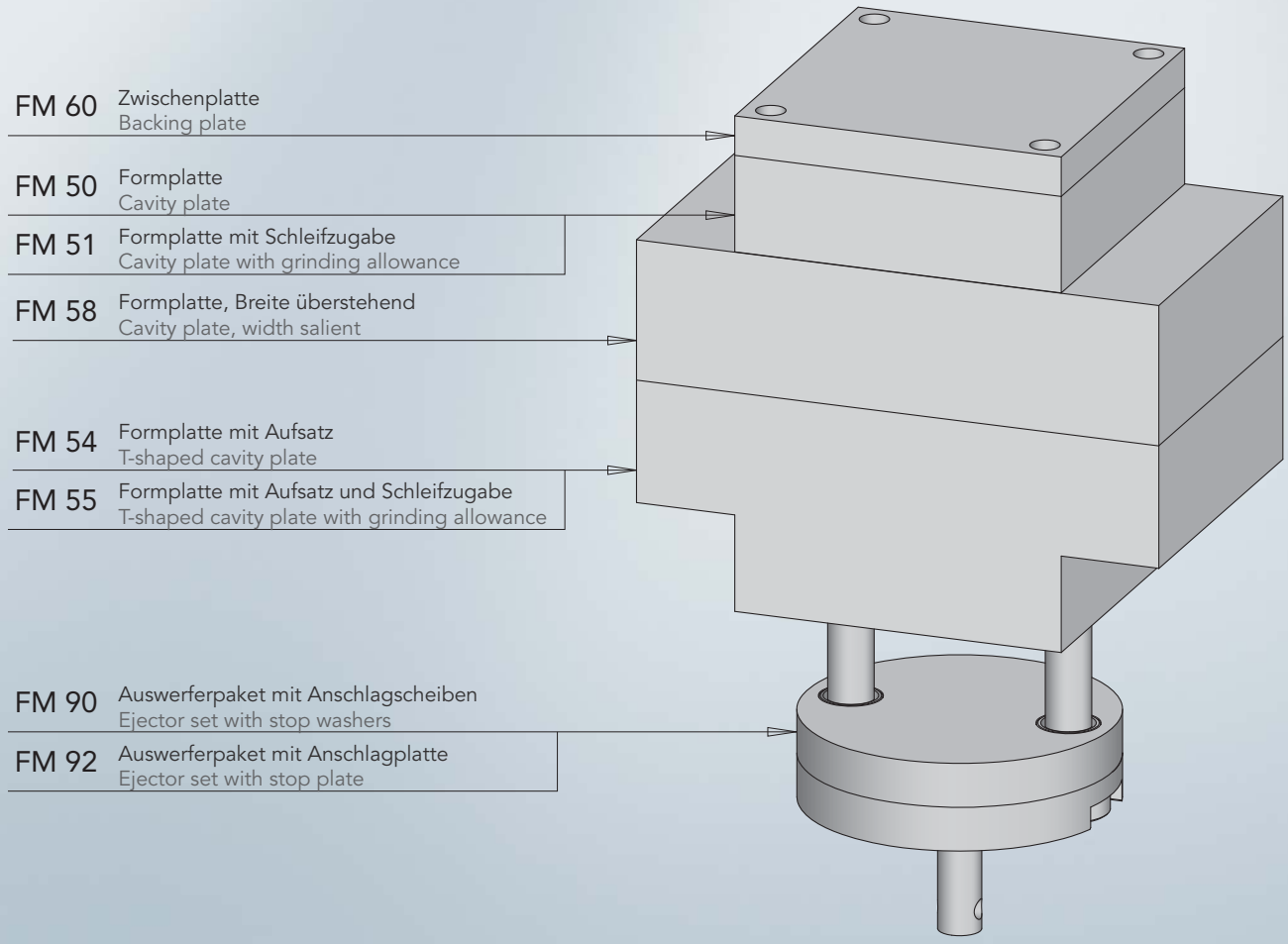
Materialqualitäten

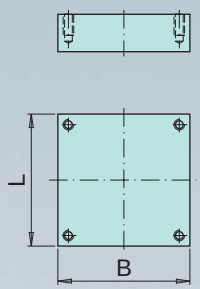
Werkst.-Nr.	Bezeichnung	Richtanalyse	Festigkeit	Charakter	Verwendung
1.2083	**DIN:** X 40 Cr 13 **AFNOR:** Z 40 C 14 **AISI:** 420	C - 0.40 Si - 0.40 Mn - 0.30 Cr - 13.00	≈ 720 N/mm²	**Durchhärterstahl** korrosionsarm, hochlegiert	Formplatten und Einsätze für die Kunststoffverarbeitung, vorwiegend bei Verarbeitung von korrodierend wirkendem Kunststoff
1.2311	**DIN:** 40 CrMnMo 7 **AFNOR:** 40 CMD 8 **UNI:** 35 CrMo 8 KU **AISI:** P20	C - 0.40 Si - 0.40 Mn - 1.50 Cr - 1.90 Mo - 0.20	≈ 1080 N/mm²	**Werkzeugstahl** legiert und vergütet, speziell geeignet zum Nitrieren, polierfähig	Formplatten, Einsätze, hochfeste Maschinenbauteile
1.2312	**DIN:** 40 CrMnMoS 86 **AFNOR:** 40 CMD 8.S **AISI:** P20+S	C - 0.40 Si - 0.40 Mn - 1.50 Cr - 1.90 Mo - 0.20 S - 0.06	≈ 1080 N/mm²	**Werkzeugstahl** legiert und vergütet, gut zerspanbar	Platten für Formaufbauten und Säulengestelle mit erhöhter Anforderung an Festigkeit
1.2316	**DIN:** X 38 CrMo 16 **AFNOR:** Z 35 CD 17 **UNI:** X 38 CrMo 16 KU **AISI:** ≈ 422	C - 0.36 Cr - 16.00 Mo - 1.20	≈ 1010 N/mm²	**Werkzeugstahl** vergütet, korrosionsbeständig, polierbar, hochlegiert	Formen zur Verarbeitung von korrodierend wirkendem Kunststoff
1.2343 ESU (ESR)	**DIN:** X 38 CrMoV 51 **AFNOR:** Z 38 CDV 5 **UNI:** X 37 CrMoV 51 KU **AISI:** H11 ESR	C - 0.38 Si - 1.00 Mn - 0.40 Cr - 5.30 Mo - 1.20 V - 0.40	≈ 780 N/mm²	**Warmarbeitsstahl** hochglanzpolierfähig, Elektroschlacke umgeschmolzen, hochlegiert	Formplatten und Formeinsätze für Druckgussformen (Al, Mg, Zn etc.) und Kunststoffwerkzeuge

Material grades

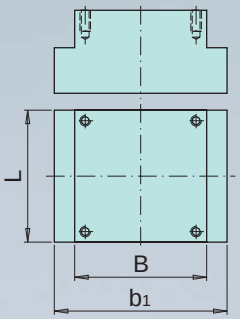
Material no.	Designation	Indicatory analysis	Strength	Character	Application
1.2083	**DIN:** X 40 Cr 13 **AFNOR:** Z 40 C 14 **AISI:** 420	C - 0.40 Si - 0.40 Mn - 0.30 Cr - 13.00	≈ 720 N/mm²	**Steel for through hardening** low corrosion, high-alloy	Cavity plates and inserts for the processing of plastics, mainly when corrosive plastic melts are being used
1.2311	**DIN:** 40 CrMnMo 7 **AFNOR:** 40 CMD 8 **UNI:** 35 CrMo 8 KU **AISI:** P20	C - 0.40 Si - 0.40 Mn - 1.50 Cr - 1.90 Mo - 0.20	≈ 1080 N/mm²	**Tool steel** alloyed and pre-toughened, ideal for nitriding and polishing	Moulding plates, inserts and high-tensile machine parts
1.2312	**DIN:** 40 CrMnMoS 86 **AFNOR:** 40 CMD 8.S **AISI:** P20+S	C - 0.40 Si - 0.40 Mn - 1.50 Cr - 1.90 Mo - 0.20 S - 0.06	≈ 1080 N/mm²	**Tool steel** alloyed and pre-toughened, good cutting properties	Plates for mould tools and dies with increased requirements on strength
1.2316	**DIN:** X 38 CrMo 16 **AFNOR:** Z 35 CD 17 **UNI:** X 38 CrMo 16 KU **AISI:** ≈ 422	C - 0.36 Cr - 16.00 Mo - 1.20	≈ 1010 N/mm²	**Tool steel** pre-toughened, corrosion-resistant, polishable, high-alloy	Moulds for processing corrosive plastics
1.2343 ESU (ESR)	**DIN:** X 38 CrMoV 51 **AFNOR:** Z 38 CDV 5 **UNI:** X 37 CrMoV 51 KU **AISI:** H11 ESR	C - 0.38 Si - 1.00 Mn - 0.40 Cr - 5.30 Mo - 1.20 V - 0.40	≈ 780 N/mm²	**Hot-work steel** suitable for mirror polishing, electro-slag remelted, high-alloy	Moulding plates and inserts for die casting (Al, Mg, Zn etc.) and injection mould tools

FM – Mikroformen
FM – Micro moulds

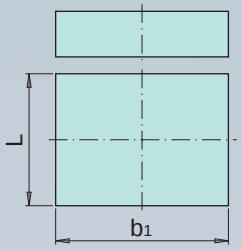




FM 50, FM51	
B	L
75	75

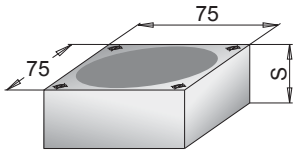


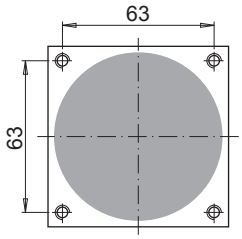
FM 54, FM55		
B	L	/ b1
75	75	/ 100
75	75	/ 120
75	75	/ 140

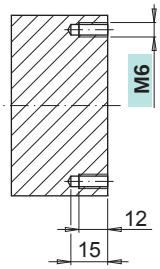


FM 58		
B	L	/ b1
75	75	/ 100
75	75	/ 120
75	75	/ 140

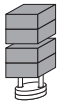
75 75

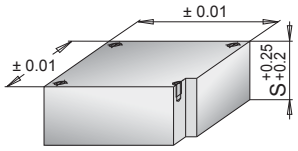






FM 50

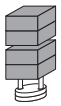


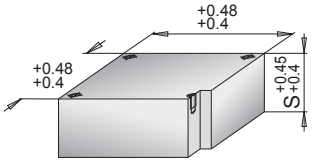


FM 50 / 75 75 / S /

S	2311	2312	2316
17.5		●	
20.5		●	
32	●		●
40	●		●
50	●		●
60	●		●

FM 51

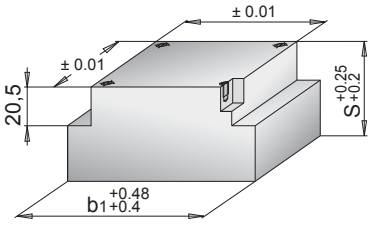




FM 51 / 75 75 / S / 2083 2343ESU

S	2083	2343ESU
32	●	●
40	●	●
50	●	●
60	●	●

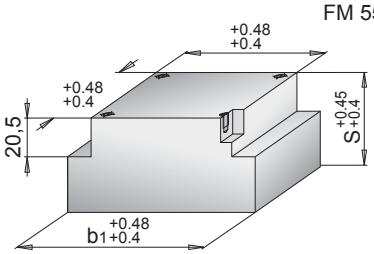
FM 54



FM 54 / 75 75 / b1 / S / 2311 2316

b1	S	2311	2316
100	50	●	●
	60	●	●
	70	●	●
120	50	●	●
	60	●	●
	70	●	●
140	50	●	●
	60	●	●
	70	●	●

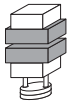
FM 55

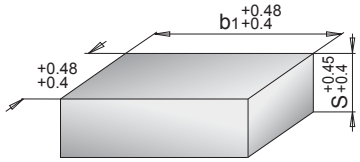


FM 55 / 75 75 / b1 / S / 2083 2343ESU

b1	S	2083	2343ESU
100	50	●	●
	60	●	●
	70	●	●
120	50	●	●
	60	●	●
	70	●	●
140	50	●	●
	60	●	●
	70	●	●

FM 58

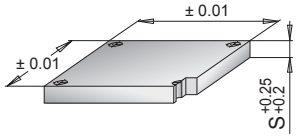




FM 58 / 75 75 / b1 / S / 2083 2311 2316 2343ESU

b1	S	2083	2311	2316	2343ESU
100	20	●	●	●	●
	32	●	●	●	●
	40	●	●	●	●
	50	●	●	●	●
	60	●	●	●	●
120	20	●	●	●	●
	32	●	●	●	●
	40	●	●	●	●
	50	●	●	●	●
	60	●	●	●	●
140	20	●	●	●	●
	32	●	●	●	●
	40	●	●	●	●
	50	●	●	●	●
	60	●	●	●	●

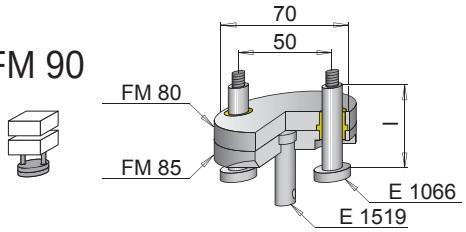
FM 60



FM 60 / 75 75 / S / 2312

S	2312
9	●

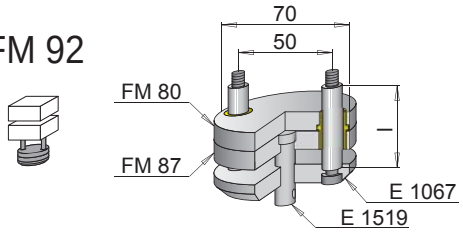
FM 90



FM 90 / 75 75	/ l /	2312
	49	●
	52	●

⇨ 10

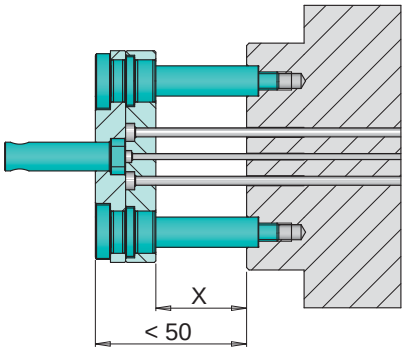
FM 92

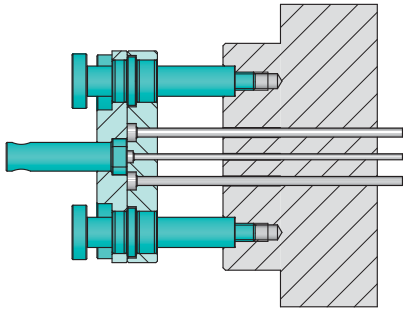


FM 92 / 75 75	/ l /	2312
	46	●
	49	●

⇨ 11

FM 90:

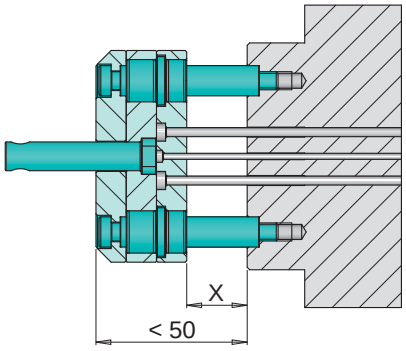


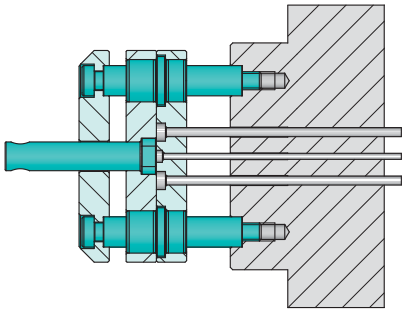


» Kleine, kompakte Ausführung
» Spritzdruckaufnahme über Anschlagscheiben
» X ≤ 30 mm
» Automatische elektronische Überwachung möglich

» Small, compact design
» Injection pressure is absorbed by stop washers
» X ≤ 30 mm
» Automatic position sensing is possible

FM 92:





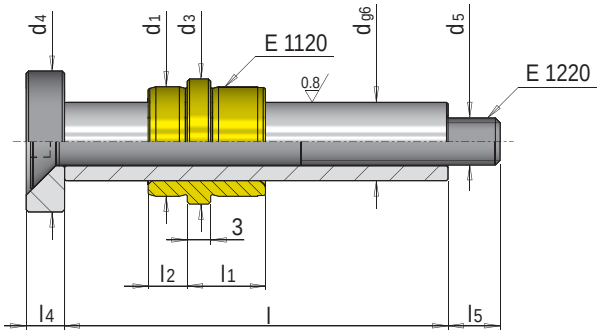
» Stabile Ausführung mit massiver Führung
» Spritzdruckaufnahme über Anschlagplatte
» X ≤ 20 mm
» Keine automatische elektronische Überwachung möglich

» Robust design with solid guiding elements
» Injection pressure is absorbed by a stop plate
» X ≤ 20 mm
» Automatic position sensing is not possible

E 1066

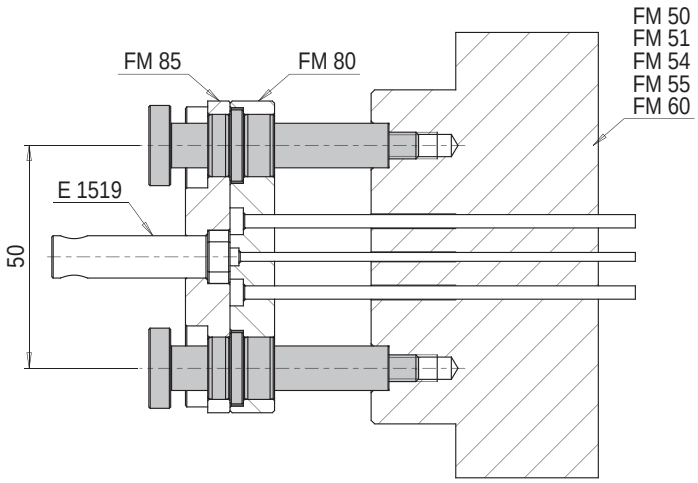
Führungseinheit für Auswerferpaket FM 90

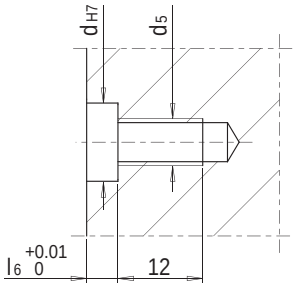
Guiding unit for FM 90 Ejector set

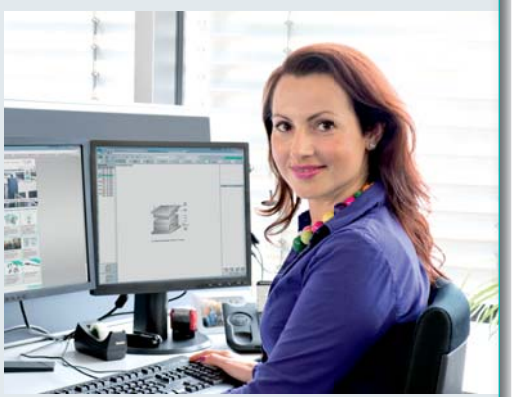


Mat.: St / 2.0598

l_1	d_1	l_2	d_3	d_4	l_4	d_5	l_5	l_6	**d**	**l**	**Nr. / No.**
10	14	5	16	18	4.9	M 6	7	4	**10**	**49**	E 1066/49
							9			**52**	E 1066/52



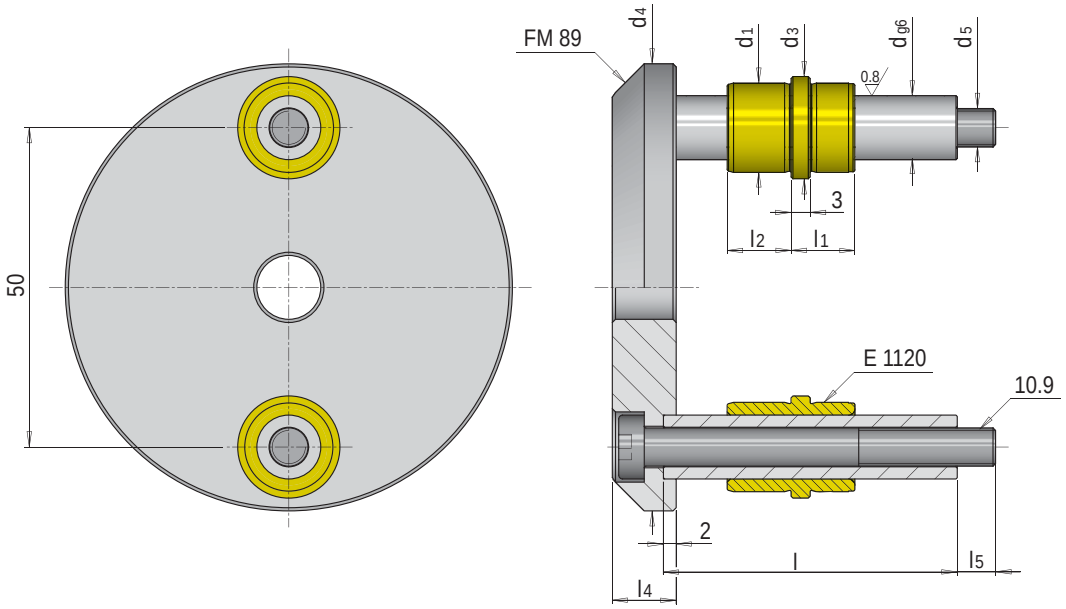




E 1067

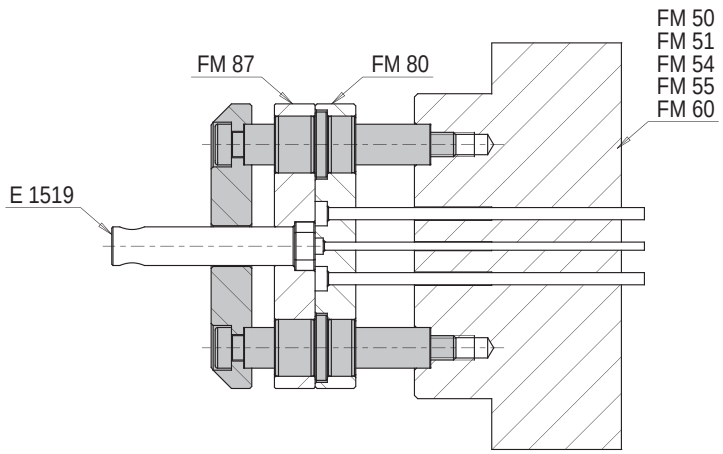
Führungseinheit für Auswerferpaket FM 92

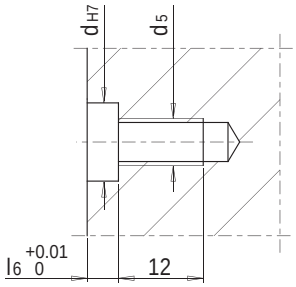
Guiding unit for FM 92 Ejector set



Mat.: St / 2.0598

l1	d1	l2	d3	d4	l4	l5	l6	d5	d	l	Nr. / No.
10	14	10	16	70	10	11	4	M 6	10	46	E 1067/46
						8				49	E 1067/49

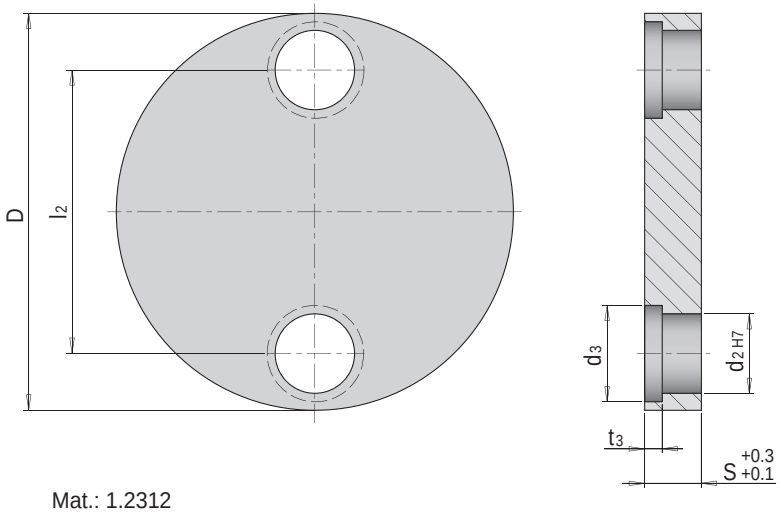




FM 80

Auswerferhalteplatte

Ejector retaining plate



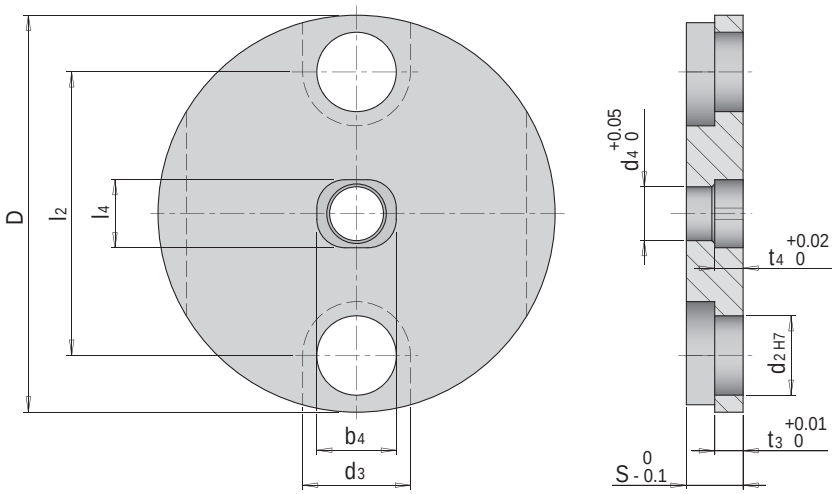
Mat.: 1.2312

d2	l2	d3	t3	Nr./No. / D / S / 2312
14	50	17	3.1	**FM 80** / **70** / **10** / ■

FM 85

Auswerfergrundplatte, Ausführung für Anschlagscheiben

Ejector base plate, stop washer model



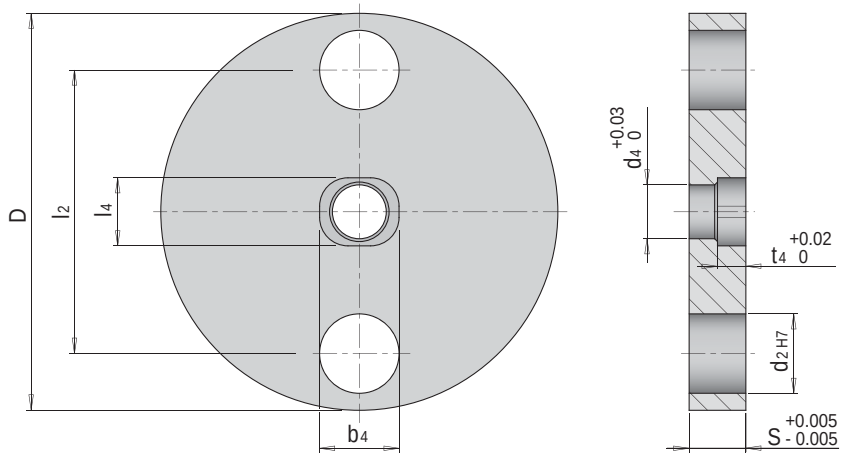
Mat.: 1.2312

d2	l2	d3	t3	b4	d4	l4	t4	Nr./No. / D / S / 2312
14	50	19	5	14	9.5	12	5	**FM 85** / **70** / **10** / ■

FM 87

Auswerfergrundplatte, Ausführung für Anschlagplatte

Ejector base plate, stop plate model



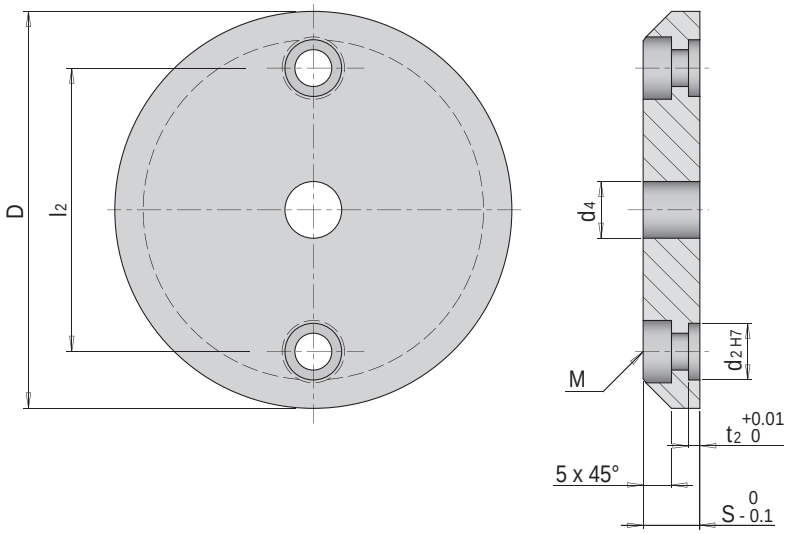
Mat.: 1.2312

d2	l2	b4	d4	l4	t4	Nr./No. / D / S / 2312			
14	50	14	9.5	12	5	**FM 87**	**70**	**10**	■

FM 89

Anschlagplatte für Auswerferpaket

Stop plate for ejector set



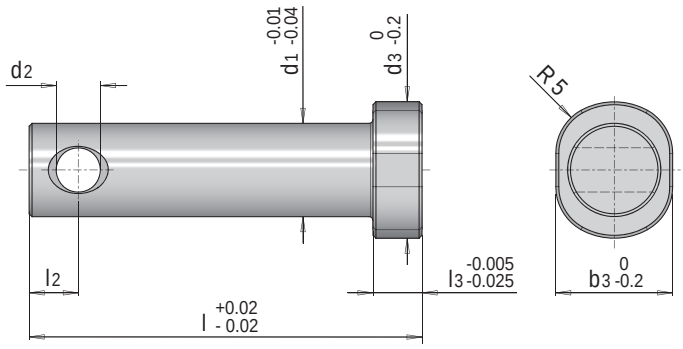
Mat.: 1.2312

M	d2	l2	t2	d4	Nr./No. / D / S / 2312			
M 6	10	50	2	10	**FM 89**	**70**	**10**	■

E 1519

Auswerferbolzen für Mikroformen

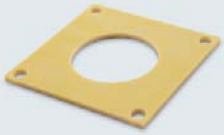
Micro mould ejector bolt



Mat.: 1.2312

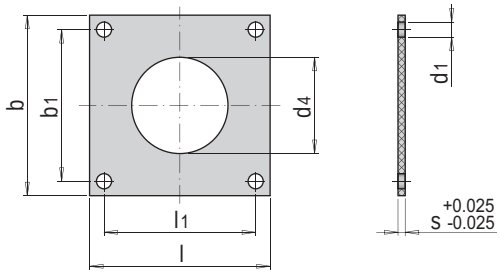
d_2	l_2	b_3	d_3	l_3	**d_1**	**l**	**Nr. / No.**
4.5	5	11.9	13.9	5	**9.5**	**40**	E 1519/9.5x40
						50	E 1519/9.5x50

E 1440



Wärmeschutzplatte verbohrt mit Düsenfreistellung

Insulation board with mounting holes and injector hole



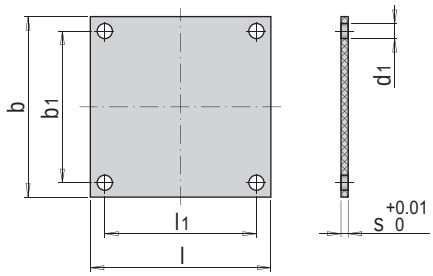
λ = 0.19 W/mK P = 600 N/mm² t max = 220°C

b1	l1	d1	d4	b	l	s	Nr. / No.
63	63	7	40	**75**	**75**	**3**	E 1440/75 75/3

E 1442

Wärmeschutzplatte verbohrt

Insulation board with mounting holes



λ = 0.19 W/mK P = 600 N/mm² t max = 220°C

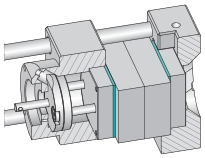
b1	l1	d1	b	l	s	Nr. / No.
63	63	7	**75**	**75**	**3**	E 1442/75 75/3

TechnikTipp
Technicaltip

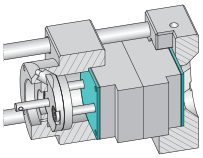
» Bei Einbau der Wärmeschutzplatten **zwischen** den Formplatten wird eine ideale Wärmeabschirmung gewährleistet.

» An optimal heat shield is created with the insertion of insulation boards **between** the cavity plates.

Ideal:
Best:



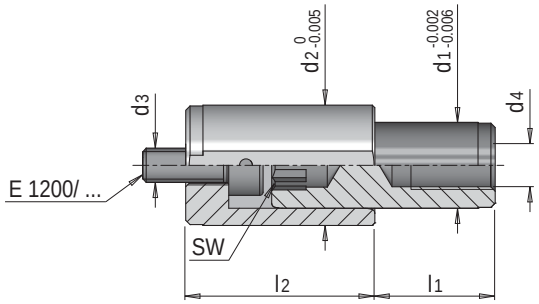
Optional:
Alternative:



E 1311

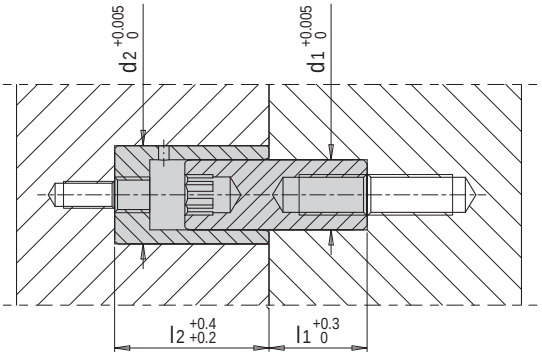
Feinzentrierung, zylindrisch

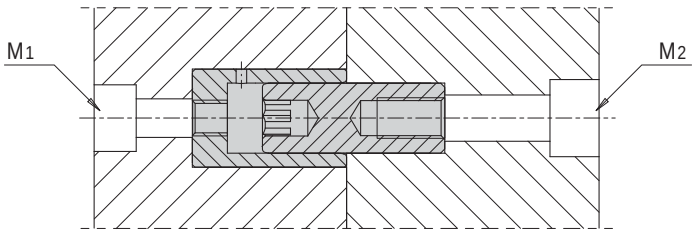
Fine centring unit, cylindrical



Mat.: 1.3343 ≈ 60 HRC DLC beschichtet coated ~3000 HV

l_1	d_2	l_2	d_3	SW	d_4	**d_1**	**Nr. / No.**
10	8	16	M3	3	M4	**6**	E 1311/ 6
14	12	20	M4	4	M5	**8**	E 1311/ 8
	14	22		5	M6	**10**	E 1311/10





d_1	M_1	M_2
6	M4	M4
8	M5	M5
10	M5	M6

Steckanschlüsse für Temperierung
Push-in fittings for temperature regulation

» Schnelle Montage durch einfaches und sicheres Einstecken der Schlauchverbindungen
» Quick installation due to the easy and safe push-in connection

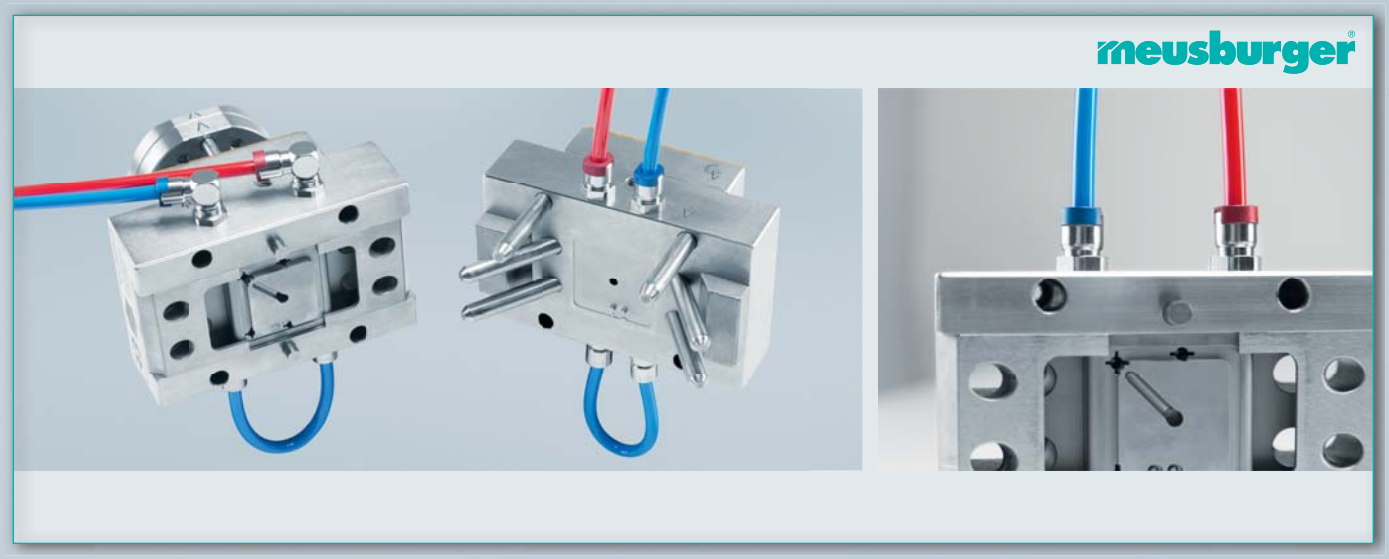
» Einfache Demontage mittels Lösehülse
» Easy removal through the release sleeve

» Standardmäßige Viton®-Dichtungen – speziell für Temperiermedien geeignet
» With Viton® seals on all fittings and suitable for coolants

» Voller Durchflussquerschnitt im Steckanschluss
» Steady flow rate through fittings with constant cross-section

Dazu passend:
» E 7450 und E 7451 Schläuche aus dauerelastischem und knickunempfindlichem Polyurethan mit Temperaturbeständigkeit bis 90°C

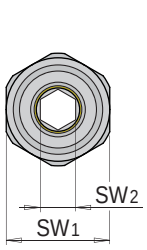
Matching products:
» Flexible tubes E 7450 and E 7451 from permanently flexible polyurethane, offering high bending resistance and usable at temperatures of up to 90°C

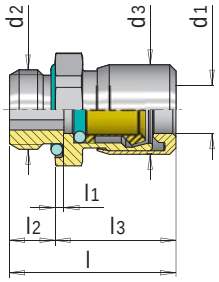


E 7400

Steckanschluss gerade, mit Gewinde

Push-in fitting, straight, male





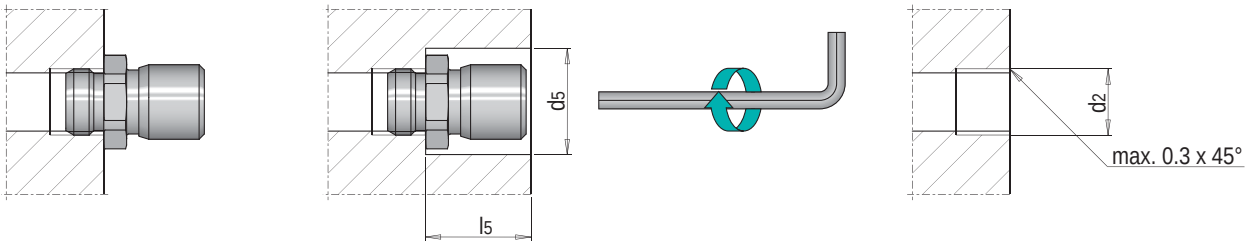
Water Air

Mat.: Messing vernickelt / FKM (Viton®)
Mat.: brass, nickel-plated / FKM (Viton®)

t max = 95°C

p max. = 16 bar

SW1	SW2	l	l1	l2	d3	l3	**d1**	**d2**	**Nr. / No.**
13	5	22	1	5.5	11.5	16.5	**6**	**G 1/8"**	E 7400/ 6/1/8
14	5	27	3		14.5	21.5	**8**		E 7400/ 8/1/8
17	6	27.5	1.5	7.5	14.5	20	**8**	**G 1/4"**	E 7400/ 8/1/4
	8	32.5	4		16.5	25	**10**		E 7400/10/1/4
20		36.5	3		20	29	**12**		E 7400/12/1/4
20	9	32.5	0.5	7.5	20	25	**12**	**G 3/8"**	E 7400/12/3/8
24	10	43	3.5		25	35.5	**16**		E 7400/16/3/8



d1	d2	d5	l5
6	G 1/8"	16	17
8	G 1/8"	18	22
8	G 1/4"	20	21
10	G 1/4"	20	26
12	G 1/4"	25	30
12	G 3/8"	25	26
16	G 3/8"	30	36

TechnikTipp
Technicaltip

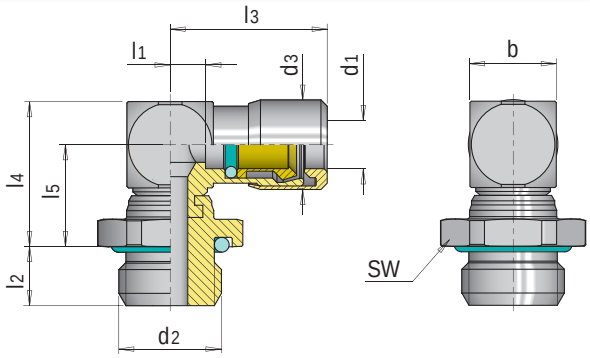
» Viton® Dichtungen speziell für Temperiermedien
» PU-Schläuche für Temperaturen bis 90°C
» Schnelle Montage, Schlauch direkt einsteckbar

» With Viton® seals, especially suitable for coolants
» Flexible Polyurethane tubes, usable for temperatures up to 90°C
» Quick assembly by pushing the flexible tube into the fitting

E 7405

Steckanschluss, 90°, schwenkbar, mit Gewinde

Push-in swivel elbow, male



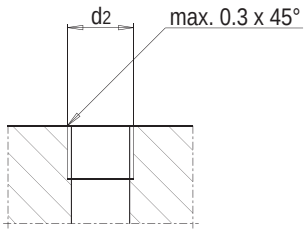
Water Air

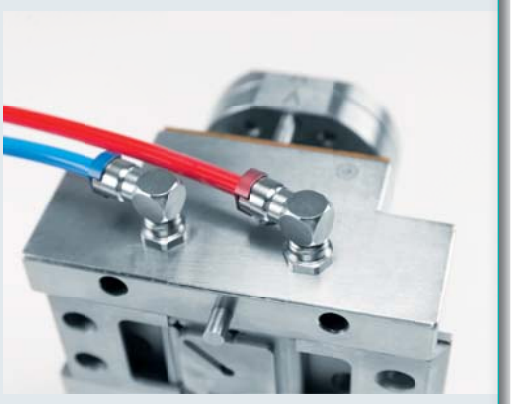
Mat.: Messing vernickelt / FKM (Viton®)
Mat.: brass, nickel-plated / FKM (Viton®)

t max = 95°C

p max. = 16 bar

SW	b	l_1	l_2	d_3	l_3	l_4	l_5	**d_1**	**d_2**	**Nr. / No.**
13	11	5	5.5	11.5	20	20.5	15	**6**	**G 1/8"**	E 7405/ 6/1/8
14	14	6.5		14.5	24.5	26	19	**8**		E 7405/ 8/1/8
17	14	6.5	7.5	14.5	24.5	24	17	**8**	**G 1/4"**	E 7405/ 8/1/4
	16	7		16.5	28	29	21	**10**		E 7405/10/1/4
				20	32.5			**12**		E 7405/12/1/4
20	20	9	7.5	20	34.5	33	23	**12**	**G 3/8"**	E 7405/12/3/8
22	24	11		25	42.5	38.5	26.5	**16**		E 7405/16/3/8

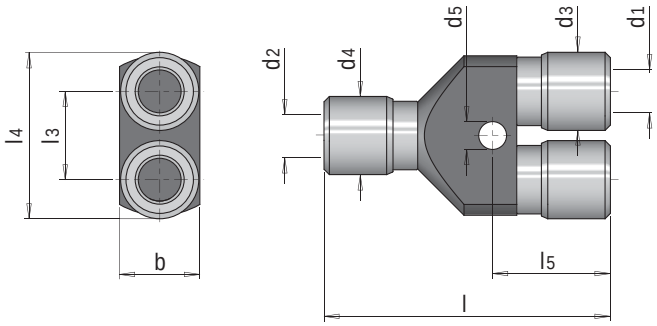




E 7410

Steckanschluss, Y-Verbinder

Push-in Y-connector



Water Air

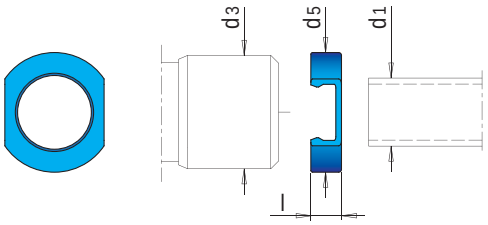
Mat.: Messing vernickelt / FKM (Viton®)
Mat.: brass, nickel-plated / FKM (Viton®) t max = 95°C p max. = 16 bar

b	l	d_3	l_3	d_4	l_4	d_5	l_5	**d_2**	**d_1**	**Nr. / No.**
12	44	11.5	13.2	11.5	24.7	4.2	18	**6**	**6**	E 7410/ 6/ 6
15	46			14.5				**8**		E 7410/ 8/ 6
15	55	14.5	16.5	14.5	31	5.2	22	**8**	**8**	E 7410/ 8/ 8
17				16.5				**10**		E 7410/10/ 8
17	60.5	16.5	19	16.5	35.5	5.2	24.5	**10**	**10**	E 7410/10/10
21	64			20				**12**		E 7410/12/10

E 7448

Kennzeichnungshülse für Steckanschluss

Marking clip for push-in fitting



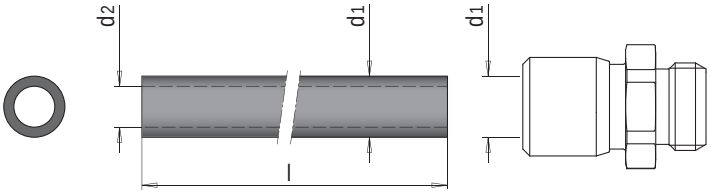
Mat.: Aluminium, eloxiert
Mat.: aluminium, anodised

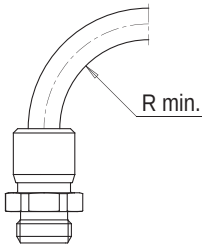
l	d_3	d_5	**d_1**	**Farbe / Colour**	**Nr. / No.**
4.8	11.5	12.8	**6**	**Blau / Blue**	E 7448/ 6/B
				Rot / Red	E 7448/ 6/R
4.8	14.5	16	**8**	**Blau / Blue**	E 7448/ 8/B
				Rot / Red	E 7448/ 8/R
5	16.5	18	**10**	**Blau / Blue**	E 7448/10/B
				Rot / Red	E 7448/10/R
5.4	20	21.3	**12**	**Blau / Blue**	E 7448/12/B
				Rot / Red	E 7448/12/R
5.4	25	26.3	**16**	**Blau / Blue**	E 7448/16/B
				Rot / Red	E 7448/16/R

E 7450

Kunststoffschlauch PU-H plus

Flexible plastic tubing PU-H plus





Water Air 90°C

Mat.: PUR, hydrolysebeständig / Mat.: hydrolysis resistant PUR

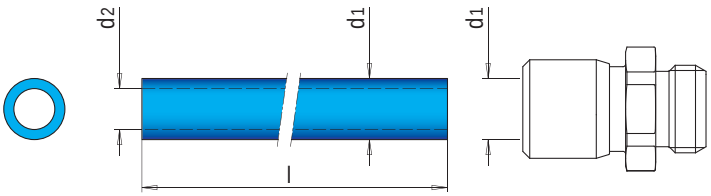
t max = 90°C

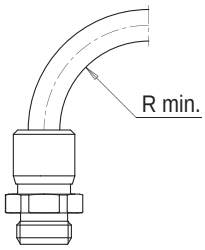
p max. / 20°C [bar]	p max. / 90°C [bar]	R min.	d1	d2	l	Farbe / Colour	Nr. / No.
14	8	14	6	4	10 m	● Schwarz / Black	E 7450/ 6x 4 /10/S
					50 m		E 7450/ 6x 4 /50/S
14	8	25	8	5.5	10 m	● Schwarz / Black	E 7450/ 8x 5,5/10/S
					50 m		E 7450/ 8x 5,5/50/S
13	6	26	10	6.7	10 m	● Schwarz / Black	E 7450/10x 6,7/10/S
					50 m		E 7450/10x 6,7/50/S
14	8	28	12	8	10 m	● Schwarz / Black	E 7450/12x 8 /10/S
					50 m		E 7450/12x 8 /50/S
16	8	55	16	11	10 m	● Schwarz / Black	E 7450/16x11 /10/S
					50 m		E 7450/16x11 /50/S

E 7451

Kunststoffschlauch PU-H

Flexible plastic tubing PU-H





Water Air

Mat.: PUR, hydrolysebeständig / Mat.: hydrolysis resistant PUR

t max = 60°C

p max. / 20°C [bar]	p max. / 60°C [bar]	R min.	d1	d2	l	Farbe / Colour	Nr. / No.
14	6	15	6	4	10 m	● Blau / Blue	E 7451/ 6x 4 /10/B
					50 m		E 7451/ 6x 4 /50/B
					10 m	● Rot / Red	E 7451/ 6x 4 /10/R
					50 m		E 7451/ 6x 4 /50/R
10	6	25	8	5.5	10 m	● Blau / Blue	E 7451/ 8x 5,5/10/B
					50 m		E 7451/ 8x 5,5/50/B
					10 m	● Rot / Red	E 7451/ 8x 5,5/10/R
					50 m		E 7451/ 8x 5,5/50/R
10	6	40	10	7	10 m	● Blau / Blue	E 7451/10x 7 /10/B
					50 m		E 7451/10x 7 /50/B
					10 m	● Rot / Red	E 7451/10x 7 /10/R
					50 m		E 7451/10x 7 /50/R
14	8	35	12	8	10 m	● Blau / Blue	E 7451/12x 8 /10/B
					50 m		E 7451/12x 8 /50/B
					10 m	● Rot / Red	E 7451/12x 8 /10/R
					50 m		E 7451/12x 8 /50/R
12	6	55	16	11	10 m	● Blau / Blue	E 7451/16x11 /10/B
					50 m		E 7451/16x11 /50/B
					10 m	● Rot / Red	E 7451/16x11 /10/R
					50 m		E 7451/16x11 /50/R