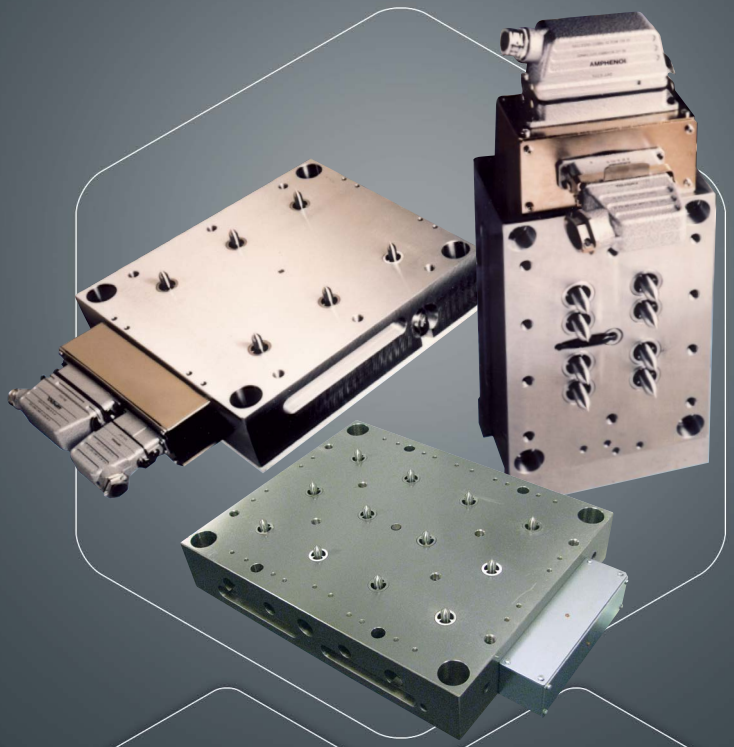
COOL ONE



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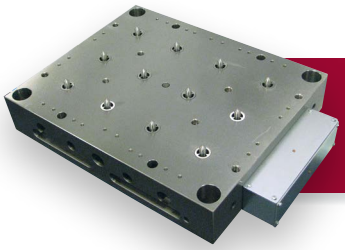
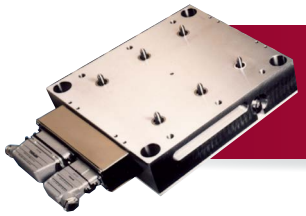


Cool-One 5

Construction 17



Start up 21

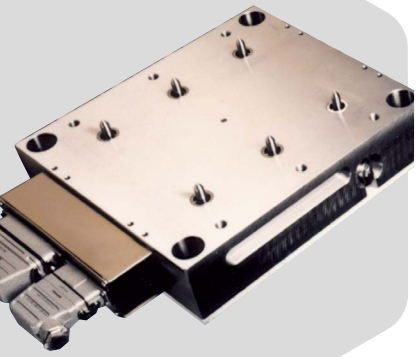
Accessories 25

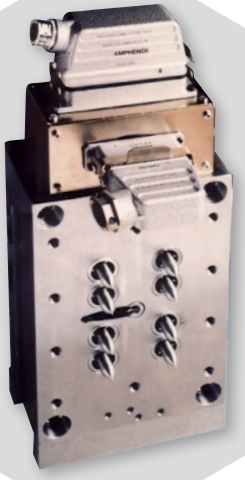
Index 33

Last review: 03/02/17

THE POWER OF POSSIBILITIES.

At **DME** - a Milacron company - we see ourselves as problem solvers. A global integrated team that is driven by the desire to help each customer's "what ifs" come to life.





02/02/2017

"We want customers calling us with their toughest problems and wildest ideas. We are in the business of creating solutions and realizing aspirations – of building what used to be impossible."

Tom Goeke
CEO, MILACRON

A GLOBAL TEAM, WORKING AS ONE.

Milacron has a global perspective on what matters in manufacturing. With over 15 manufacturing facilities in six countries, we sell our plastics processing solutions in over 100 countries across six continents. We have an installed base of 40,000 machines, 153,000 hot runners and over 3.5 million square feet of manufacturing space. We put this know-how to work every day to improve productivity, cut costs, increase energy efficiency, eliminate scrap, and reduce cycle times across a diverse range of industries. Behind it all is our people – caring, committed and creative – who build long-term relationships with our customers.

From automobiles and appliances to milk jugs and toothbrushes, **DME** technologies and services help the world's leading companies make your favorite products.

Success in today's global market starts with the best product, at the best price, in the required time frame. To achieve this, **DME** provides customers with the best blend of manufacturing, outsourcing and strategic partners, managed to be delivered right on time anywhere in the world using contemporary, sophisticated techniques.

DME delivers a variety of mold components available in all regional standards. Thousands of high performance, off-the-shelf and engineered solutions let our customers spend more time on valuable cavity work. Along with a comprehensive line of equipment and supplies, we provide the high quality products you need to speed up assembly and simplify operations.

Only **DME** can provide customers with the worldwide resources required to compete in the market of Injection Molds & Components, Hot and Cold Runner spare parts as well as in Die Set Molds & Components or Surface Finishing Technologies.

Today, **DME** is proud to be able to provide complete turnkey solutions, partnering with fellow **Milacron** companies such as **Mold-Masters** runnerless systems, **Tirad** high precission custom plates (including **DME** Standard components) and **Ferromatik** machines.

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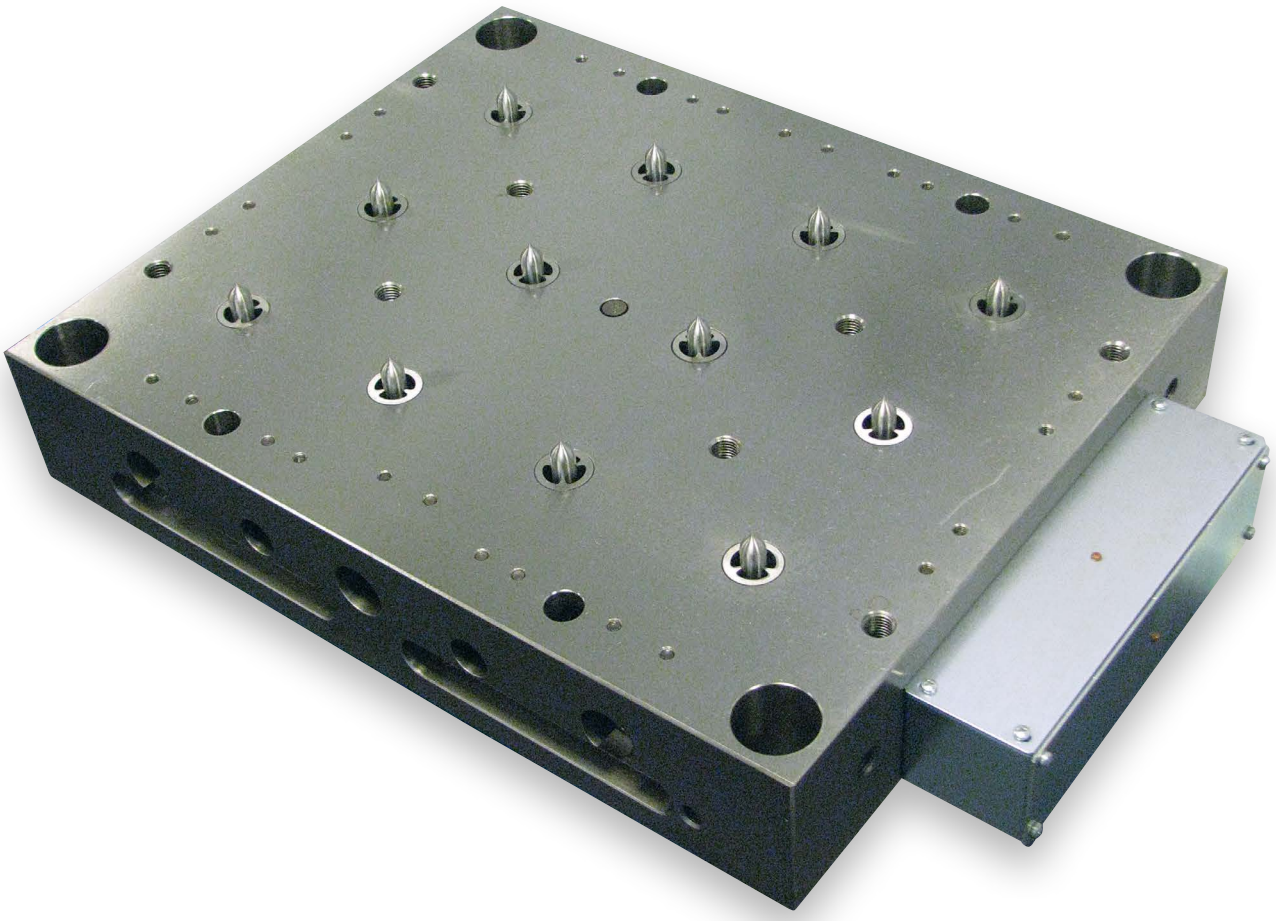
02/02/2017

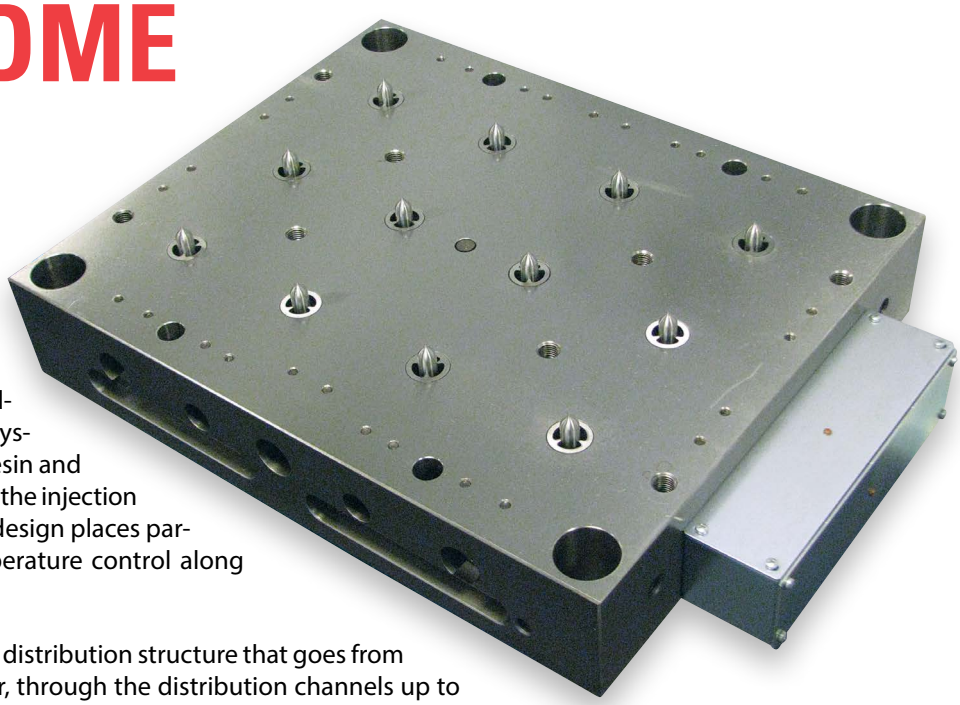
MILACRON®

Cool-One



DME

WHAT IS A DME COOL-ONE SYSTEM?



The Cool-One is a standardized and pre-engineered system, which heats up the resin and brings it from the nozzle of the injection machine to the cavity. Its design places particular emphasis on temperature control along the melt delivery process.

This is possible thanks to a distribution structure that goes from the Heated Nozzle Locator, through the distribution channels up to the probes and to the injection point.

What makes the Cool One different from common hot runner systems is the location of the heaters, which are not around the plastic flow, but in the middle of it. This means that the distributor tubes, which contain the heaters are in the middle of the distribution channel, which are in fact simple holes machined in the plate. The centering rings keep the heater well located.

The the distribution structure has a single primary distributor tube, with intersecting probes to direct the flow of material to the gates. According to the complexity of the project it can be necessary to create more distributor channels to reach every cavity. A wide variety of intersecting layouts are possible to carry molten material to virtually any number or pattern of cavities. In any case the plastic flow is constantly heated.

During start up the first plastic flow entering the mold, gets in touch with the external wall of the distributor channel and solidifies on it, creating a natural INSULATING BARRIER. This is an important feature of the Cool One, because that insulation separates the plastic flow from the mold reducing the need of cooling and generating a very high energy saving. DME delivers the complete system, consisting of nozzle, distribution system, probes and machined plates.

As the heaters are in the middle of the flow, the heat they generate remains within the tube and is transferred to the plate in a very little quantity. The heat is generated only where is needed and all along the pattern of the plastic. That means that the system needs less energy. This makes the Cool One a very efficient system.

The way the insulating barrier is created, makes the Cool One a system that requires no seal rings; in fact it can be defined as self-sealing and for the way it is generated it makes leakage impossible.

The insulation also means that the plates will suffer much less thermal expansion / distortion.

INTERNALLY HEATED

ONE OR MULTI-CAVITY

HIGHER EFFICIENCY

INSULATING BARRIER

02/02/2017

NO LEAKAGE

For being self-sealing and having less thermal stress, it requires less maintenance.

The features mentioned before make the Cool One a solid system, which is able to run for years, without having to bench the tool.

LESS MAINTENANCE

An important feature that the Cool One shares with common hot runner systems, is that it allows great material savings. almost 100% of the plastic entering the system is transformed into final product.

As any hot runner system it is suited for use in single or multi cavity molds and generally speaking it suits most of the possible applications for hot runners on the market and its mounting is very easy.

GREAT MATERIAL SAVINGS

If you compare the Cool One with any mold with non heated runners, the quality of plastic parts is much better and the cycle time is shorter: the same advantages you look for in a Hot Runner system, but in a cheaper and more solid solution.

BETTER QUALITY

Our experts will draw the system for you. DME designs the best solution for you based on the main requirements of your project (plastic material, number of cavities etc.) and provides you the 3D and 2D drawings necessary for your approval.

The Cool One is a standard system that makes it easy for the designer to build the mold as there is no special parts required; the design is much easier. DME delivers not only standard system, we can do also specials. Please get in touch with our special projects department at their email DMEEU_SpecialProjects@dmeeu.com and ask for feasibility.

STANDARD SYSTEM

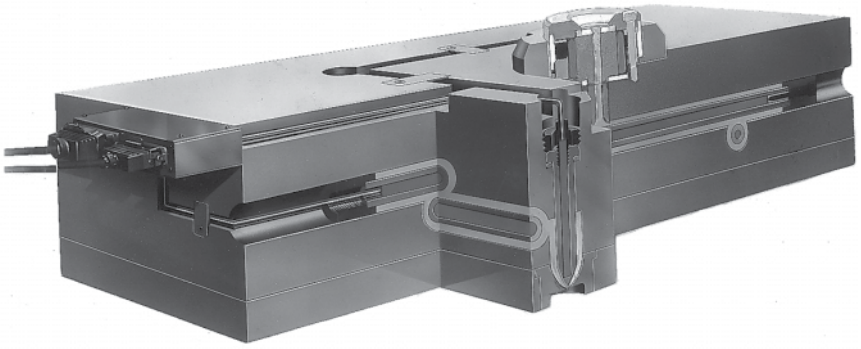
The Cool One is not recommended on technical material, charged materials and if color changed is needed.

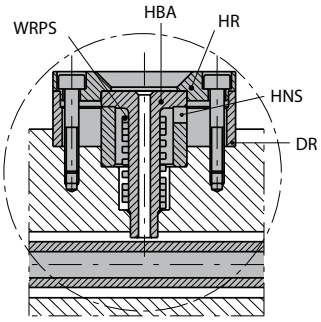
TEMPERATURE CONTROLLERS

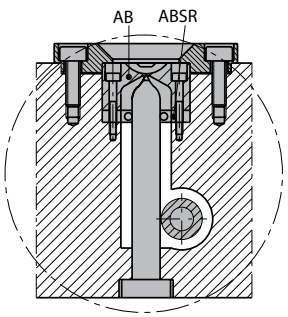
The heating elements are controlled by standard DME temperature controller systems. More info on our website (www.dmeeu.com), **eSTORE** or ask for our Temperature Controllers brochure.

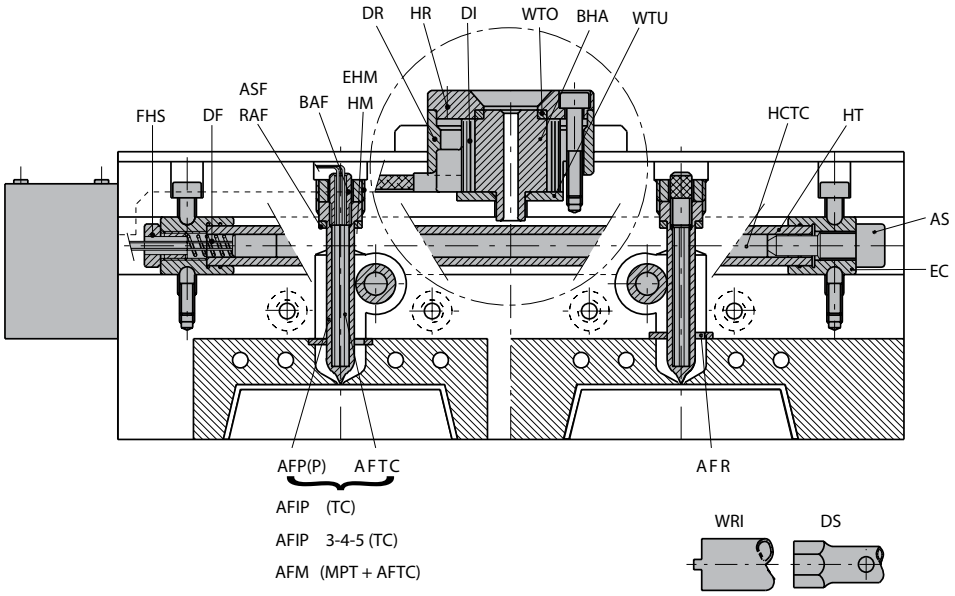
02/02/2017

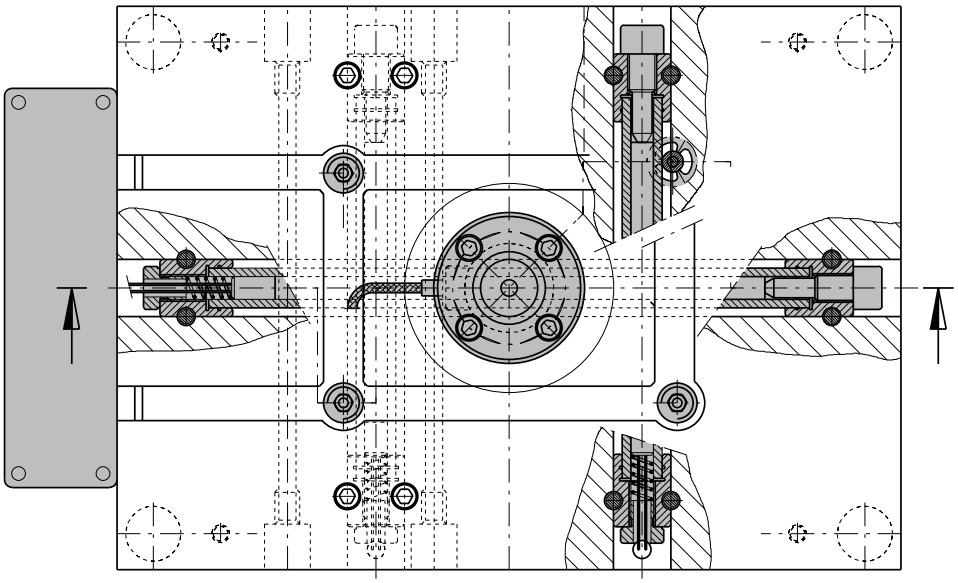
Cool-One system - Basic concept











CAD reference point

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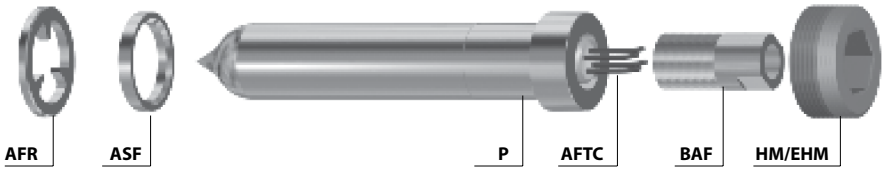
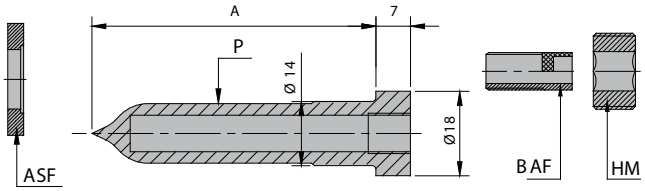
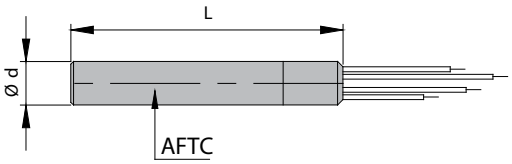
Technical information

AFP MINI PROBE



Regular AFP probe is suited for unfilled material.
In case you work with filled material, ask for aTiN coated probe.
The AFP probe is a kit consisting of P, ASF, BAF and HM; see below for more information.





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AFP 251 N	73
AFP 271 N	93
AFP 291 N	118

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AFTC 0826 E	8	65	185	0,8
AFTC 0827 E	8	85	215	0,9
AFTC 0828 E	8	110	300	1,3

AFP is built up by following items

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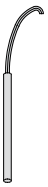
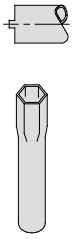
AFP 251 N	P 251 N			
AFP 271 N	P 271 N			
AFP 291 N	P 291 N			

To be ordered seperately

	AFTC + TC*	AFR*	WRI*
			
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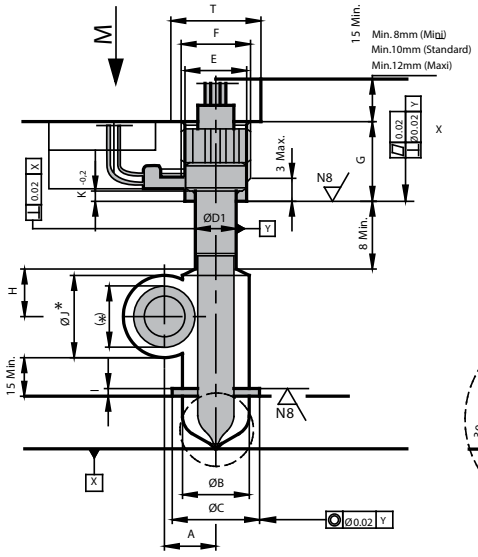

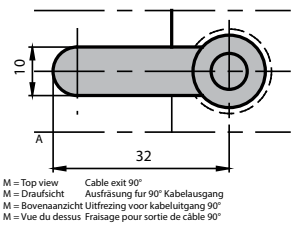

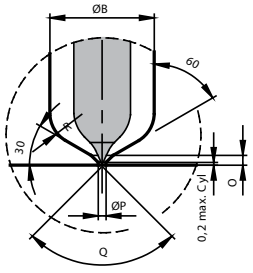

CAD reference point

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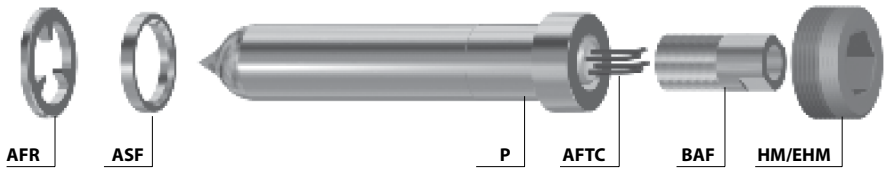
AFP STANDARD PROBE

Technical information



Regular AFP probe is suited for unfilled material.
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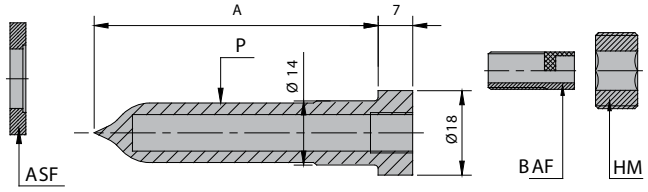

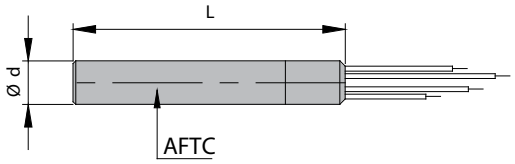

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AFTC3052E	9,52	136	390	1,7

AFP is built up by following items

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AFP 501 N	P 501 N			
AFP 601 N	P 601 N			

To be ordered seperately

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	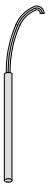		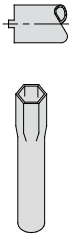
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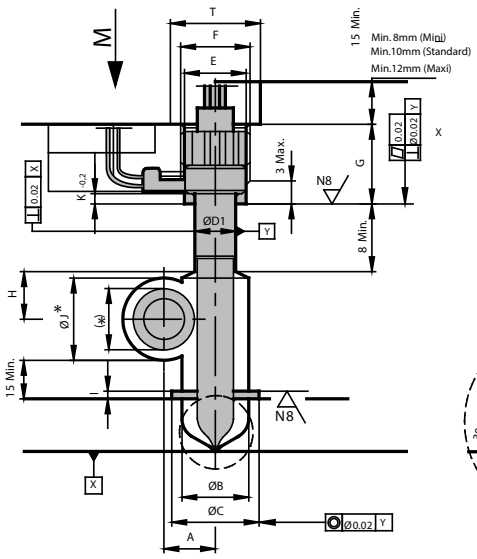
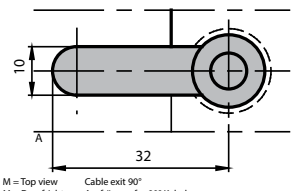
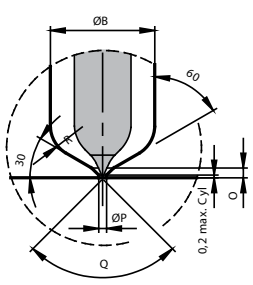




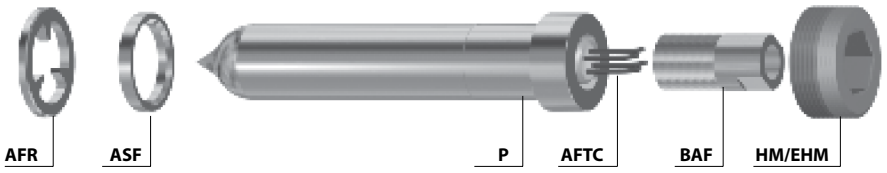


CAD reference point

02/02/2017

Technical information

AFP MAXI PROBE



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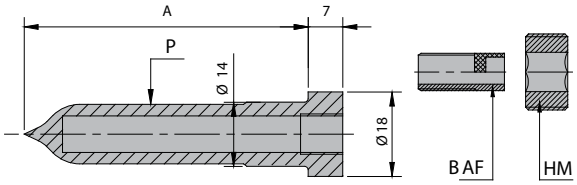

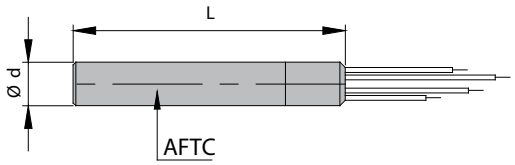

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AFTC 1218 E	12,5	190	515	2,2
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AFTC 1230 E	12,5	312	930	4,1
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AFP is built up by following items

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AFP 702 N	P 702 N			
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AFP 1002 N	P 1002 N			
AFP 1102 N	P 1102 N			

To be ordered seperately

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	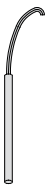		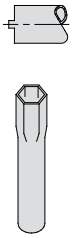
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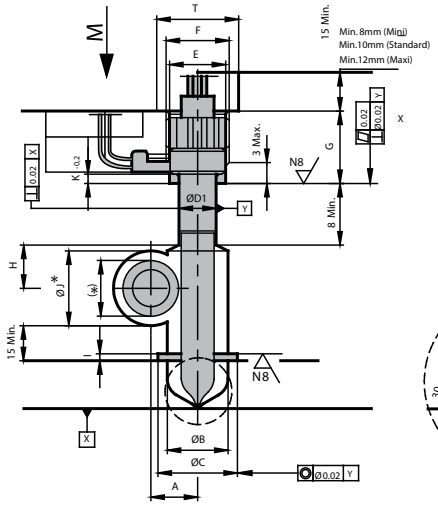
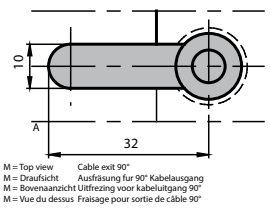
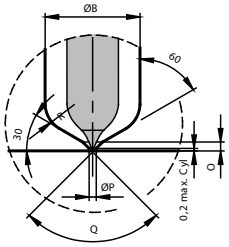




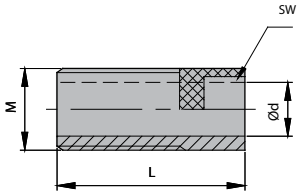


CAD reference point

02/02/2017

BAF

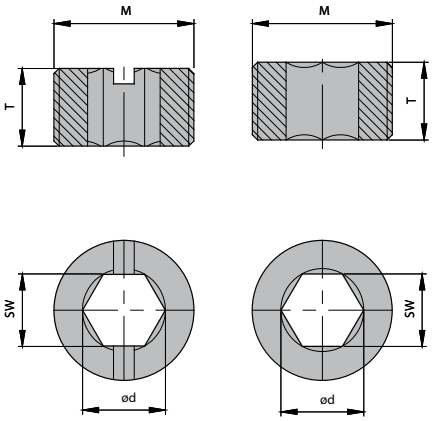
Stop sleeves for cartridge heaters



	REF	d	M	L	SW
Mini	**BAF10N**	6	M10x1	23	9
Standard	**BAF12N**	8	M12x1	30	10
Maxi	**BAF16N**	10	M16x1	35	14

HM / EHM

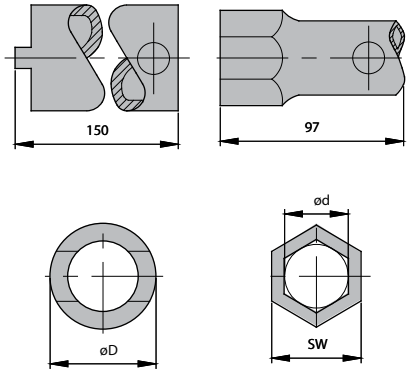
Hold down nuts



	REF	Type	M	T	d	SW
Micro	**HM 22**	A		12,5	14,0	12
Mini	**HM 22**	A	M10x1	12,5	14,0	12
Standard	**EHM 2730**	B	M12x1	15,0	16,0	14
Maxi	**EHM 3215**	B	M16x1	15,0	19,5	17

WRI / DS

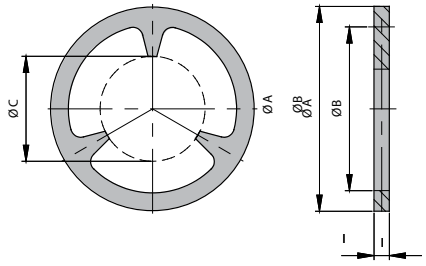
Keys for hold down nuts



	REF	Type	D	d	SW
Micro	**WRI 92**	a	18	12	-
Mini	**WRI 92**	a	18	12	-
Standard	**DS 1011**	b	-	7	14
Maxi	**DS 1314**	b	-	9	17

AFR

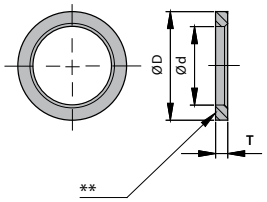
Centering rings



REF	A	B	C	I	For
AFR 3114	31	23	13,5	3	AFP MINI + AFIP
AFR 3414	34	26	13,5	3	AFP MINI + AFIP
AFR 3416	34	26	15,5	3	AFP STAN. + AFIP
AFR 4016	40	32	15,5	3	AFP STAN. + AFIP
AFR 4022	40	32	21,5	3	AFP MAXI

ASF

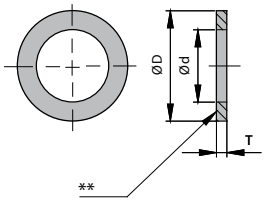
Spacer washers



REF	D	d	T
ASF 1 N	15,5	10,5	2
ASF 2 N	18	13,0	2
ASF 3 N	18	14,5	3
ASF 4 N	22	16,5	4
ASF 5 N	28	22,5	4

RAF

Spacer washers



REF	D	d	T
RAF 3-062	15,5	11,6	1,57
RAF 4-062	18,14	11,9	1,57
RAF 5-062	18,14	14,3	1,57

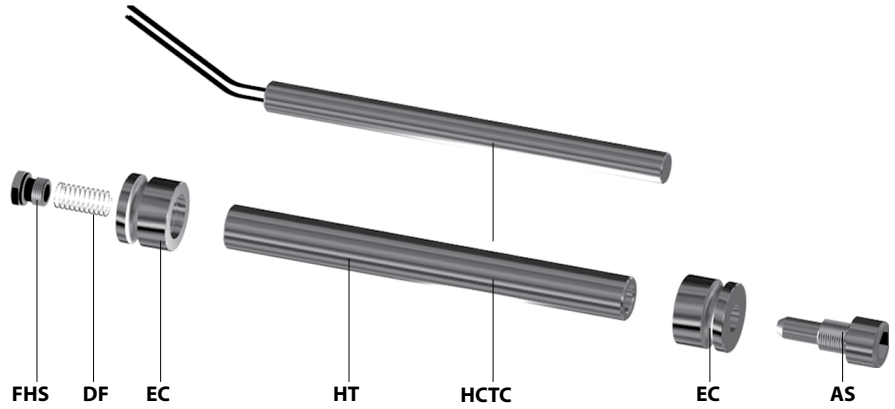
**grind this face to suit

CAD reference point

02/02/2017

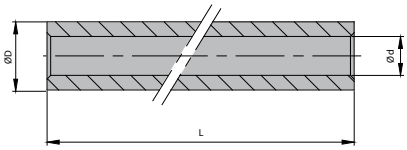
Distributor system Cool-One

Info



HT

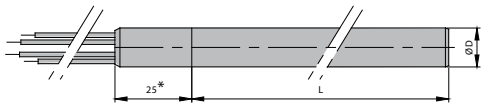
Distributor tubes



	REF	D	d	L
MINI	HT 03 30 N	16	9,52	300
	HT 03 40 N			400
	HT 03 50 N			500
	HT 03 60 N			600
STANDARD	HT 04 20 N	22,22	12,7	200
	HT 04 30 N			300
	HT 04 40 N			400
	HT 04 50 N			500
	HT 04 60 N			600
	HT 04 70 N			700
	HT 04 80 N			800
	HT 04 90 N			900
MAXI	HT 05 30 N	41,27	15,87	300
	HT 05 40 N			400
	HT 05 50 N			500
	HT 05 60 N			600
	HT 05 70 N			700
	HT 05 80 N			800
	HT 05 100 N			1000
	HT 05 120 N			1200

HCTC

Cartridge heaters with TC type 'J' (Teflon sealed, waterproof)



* Unheated zone

	REF	D	L	Watt 230V	Amp
MINI	HCTC 03-4E	9,52	102	350	1,6
	HCTC 03-45E		114	370	1,6
	HCTC 03-5E		127	435	1,9
	HCTC 03-55E		140	470	2,1
	HCTC 03-6E		152	490	2,1
	HCTC 03-65E		165	515	2,2
	HCTC 03-7E		178	525	2,3
	HCTC 03-8E		203	600	2,6
	HCTC 03-9E		229	710	3,1
STANDARD	HCTC 04-05E	12,7	127	425	1,9
	HCTC 04-6E		152	435	1,9
	HCTC 04-7E		178	480	2,1
	HCTC 04-8E		203	600	2,6
	HCTC 04-9E		229	710	3,1
	HCTC 04-10E		254	765	3,3
	HCTC 04-11E		279	850	3,7
	HCTC 04-12E		305	940	4,1
	HCTC 04-13E		330	1040	4,5
	HCTC 04-14E		356	1110	4,8
	HCTC 04-15E		381	1200	5,2
	HCTC 04-16E		406	1310	5,7
	HCTC 04-17E		432	1420	6,2
	HCTC 04-18E		457	1475	6,4
MAXI	HCTC 05-6E	15,87	152	570	2,5
	HCTC 05-7E		178	670	3,0
	HCTC 05-8E		203	810	3,6
	HCTC 05-9E		229	930	4,1
	HCTC 05-10E		254	1060	4,6
	HCTC 05-11E		279	1190	5,2
	HCTC 05-12E		305	1310	5,7
	HCTC 05-13E		330	1440	6,3
	HCTC 05-14E		356	1560	6,8
	HCTC 05-15E		381	1690	7,3
	HCTC 05-16E		406	1815	7,8
	HCTC 05-17E		432	1935	8,4
	HCTC 05-18E		457	2065	9,0
	HCTC 05-19E		483	2200	9,5
	HCTC 05-20E		508	2320	10,0
	HCTC 05-21E		533	2450	10,7
	HCTC 05-22E		559	2570	11,2
	HCTC 05-23E		584	2690	11,7
	HCTC 05-24E		610	2820	12,2
	HCTC 05-25E		635	2940	12,8

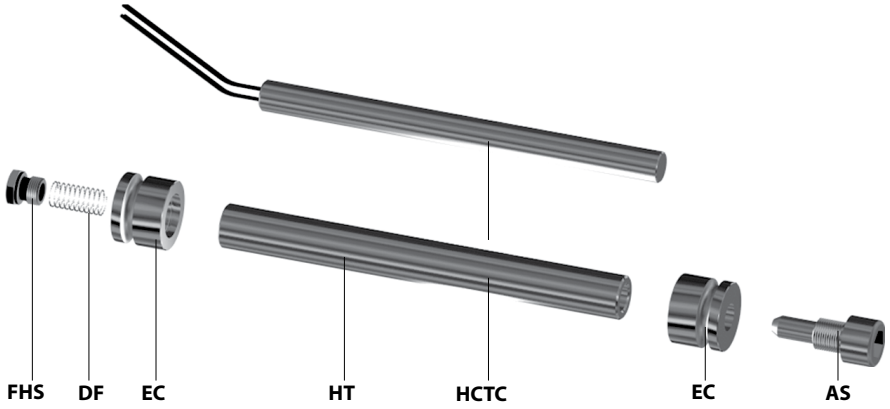
REF	D	L	Watt 230 V	Amp
HCTC 03-10E	9,52	254	775	3,3
HCTC 03-11E		279	785	3,5
HCTC 03-12E		305	830	3,7
HCTC 03-13E		330	885	3,9
HCTC 03-14E		356	905	4,0
HCTC 03-15E		381	1200	5,2
HCTC 03-16E		406	1310	5,7
HCTC 03-17E		432	1420	6,2
HCTC 03-18E		457	1530	6,7
HCTC 04-19E	12,7	483	1575	6,8
HCTC 04-20E		508	1661	7,2
HCTC 04-21E		533	1750	7,6
HCTC 04-22E		559	1870	8,2
HCTC 04-23E		584	1980	8,6
HCTC 04-24E		610	2200	9,6
HCTC 04-25E		635	2280	9,9
HCTC 04-26E		660	2450	10,7
HCTC 04-27E		686	2550	11,1
HCTC 04-28E		711	2635	11,5
HCTC 04-29E		737	2840	12,3
HCTC 04-30E		762	2940	12,8
HCTC 04-31E		787	3150	13,7
HCTC 05-26E	15,87	660	3070	13,4
HCTC 05-27E		686	3190	13,9
HCTC 05-28E		711	3320	14,4
HCTC 05-29E		737	3475	15,2
HCTC 05-30E		762	3550	15,5
HCTC 05-31E		787	3700	16,1
HCTC 05-32E		813	3825	16,6
HCTC 05-33E		838	3945	17,1
HCTC 05-34E		864	4065	17,7
HCTC 05-35E		889	4200	18,3
HCTC 05-36E		914	4330	18,8
HCTC 05-37E		940	4480	19,4
HCTC 05-38E		965	4590	20,0
HCTC 05-39E		991	4700	20,4
HCTC 05-40E		1016	4820	20,9
HCTC 05-41E		1041	4950	21,5
HCTC 05-42E		1067	5000	21,7
HCTC 05-43E		1092	5070	22,1
HCTC 05-44E		1118	5070	22,1
HCTC 05-45E		1143	5070	22,1

CAD reference point

02/02/2017

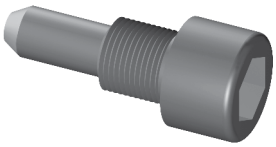
Info

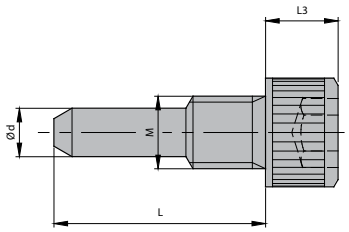
Distributor system - Accessories



AS

Stop screws

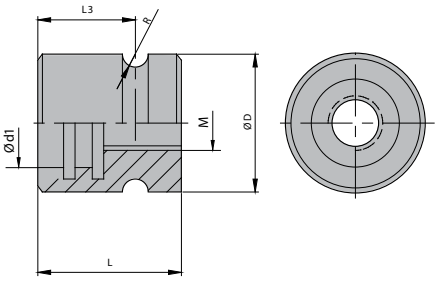




	REF	L	M	d	L3
Mini	**AS 12 N**	35	M12	8	12
Standard	**AS 16 N**	50	M16	11	16
Maxi	**AS 20 N**	50	M20	14	20

EC

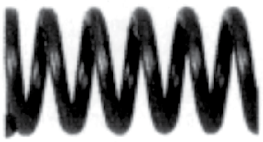
End caps

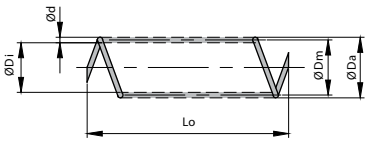


	REF	D	d1	L	L3	R	M
Mini	**EC 03 N**	24	16	25	17	4,5	M12
	EC 03/5 N	32					
Standard	**EC 04 N**	32	22,22	38	26		M16
	EC 04/5 N	40					
Maxi	**EC 05 N**	50	41,27				M20
	EC 05/5 N	50	32				

DF / WZ

Positioning springs

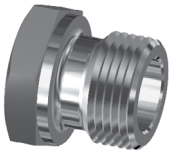


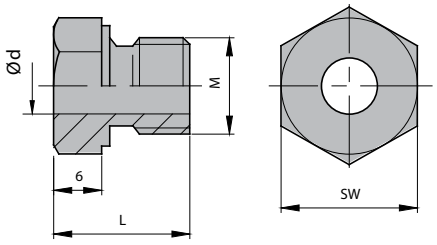


	REF	Do	Lo	Di	Dm	d
Mini	**DF930**	9	30	7,4	8,2	0,8
Standard	**WZ80611255**	12	55	9	10,5	1,5
Maxi	**WZ80611500550**	15	55	12	13,5	1,5

FHS

Spring retainers



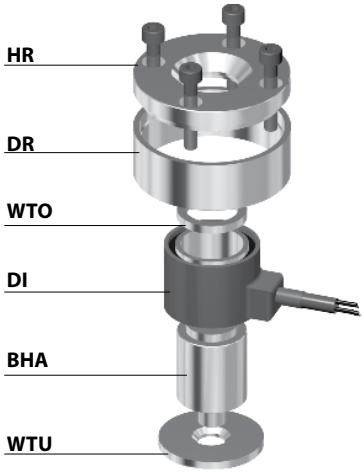


	REF	L	M	d	SW
Mini	**FHS 12**	17	M12	7	17
Standard	**FHS 16**	20	M16	10	19
Maxi	**FHS 20**	23	M20	12	24

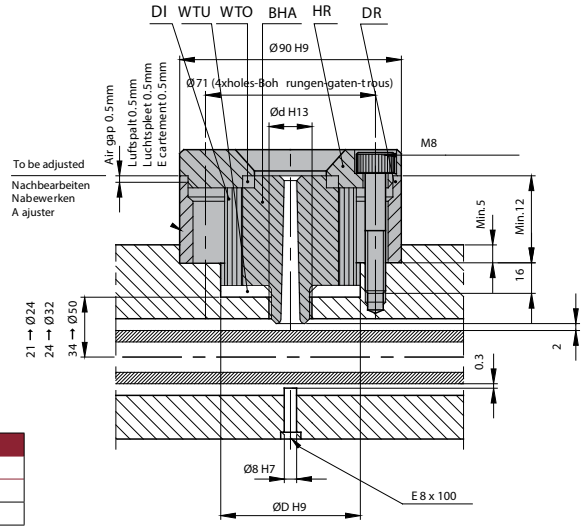
CAD reference point

02/02/2017

Heated nozzle adapters



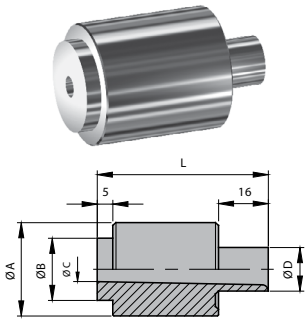
BHA



REF	dH13	DH9
BHA 30X30 N	16	50
BHA 40X30 N	18	60
BHA 40X40 N	18	60

BHA

Body for heated nozzle adapters

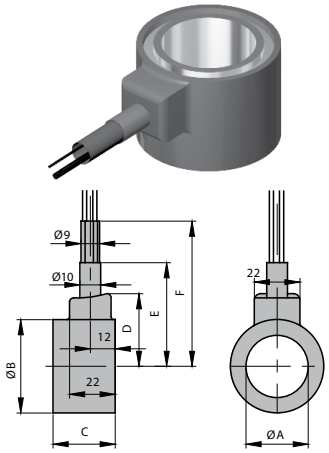


If the radius is required it can be realized by the mold maker

REF	A	B	C	D	L
BHA 30X30N	30	20	6	14	55
BHA 40X30N	40	30	8	16	55
BHA 40X40N	40	30	8	16	65

DI

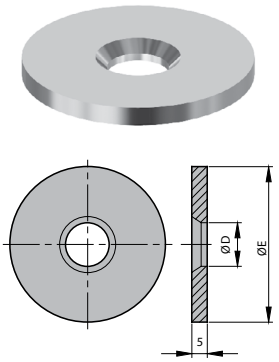
Band heaters with TC type 'J'



REF	A	B	C	D	E	F	Watt 230V
DI 30X30	30	40	30	35	50	70	330
DI 40X30	40	50	30	40	55	75	380
DI 40X40	40	50	40	40	55	75	490

WTU

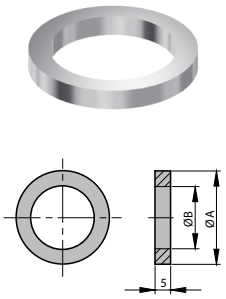
Insulating disc (lower)



REF	E	D
WTU 50	50	14
WTU 60	60	16

WTO

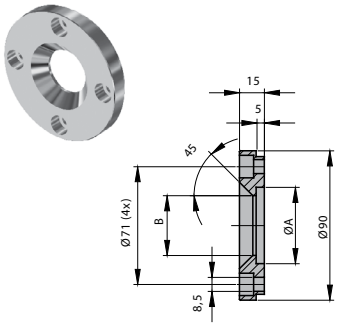
Insulating disc (upper)



REF	A	D
WTO 30	30	20
WTO 40	40	30

HR

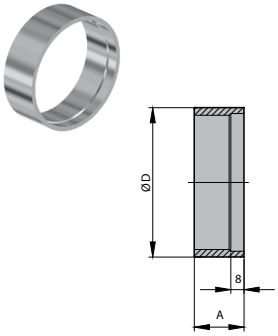
Nozzle locaters



REF	A	D
HR 30	30	20
HR 40	40	30

DR

Distance bushing



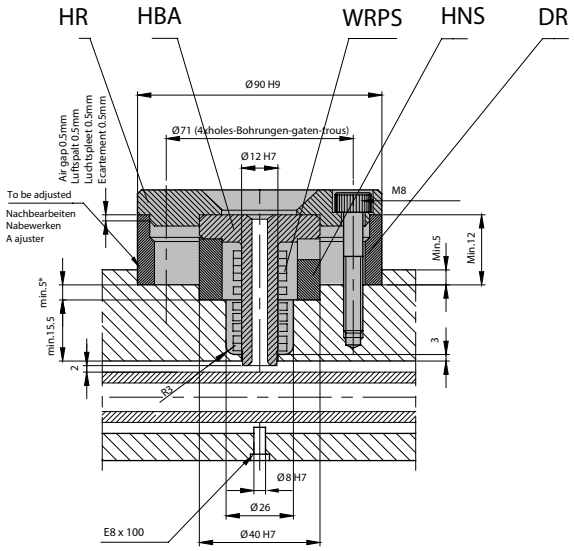
REF	A	D
DR 40	30	90
DR 90	60	90

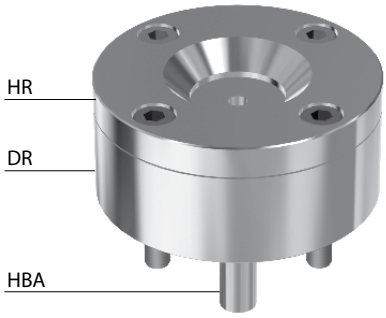
CAD reference point

02/02/2017

BHA

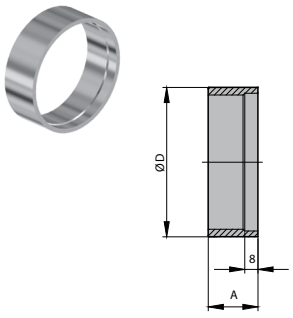
Heated nozzle adapters





DR

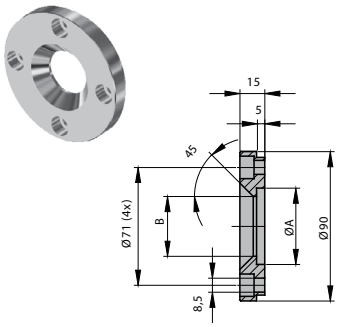
Distance bushing



REF	A	D
DR 40	30	90
DR 90	60	90

HR

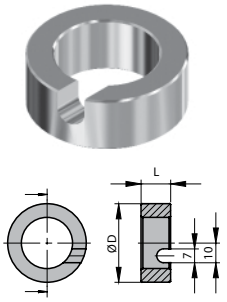
Nozzle locaters



REF	A	D
HR 40	40	30

HNS

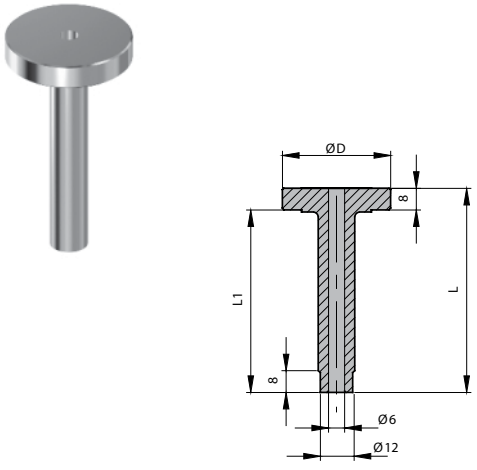
Spacer rings



REF	D	L
HNS 40	40	15
HNS 40-50	40	50

HBA

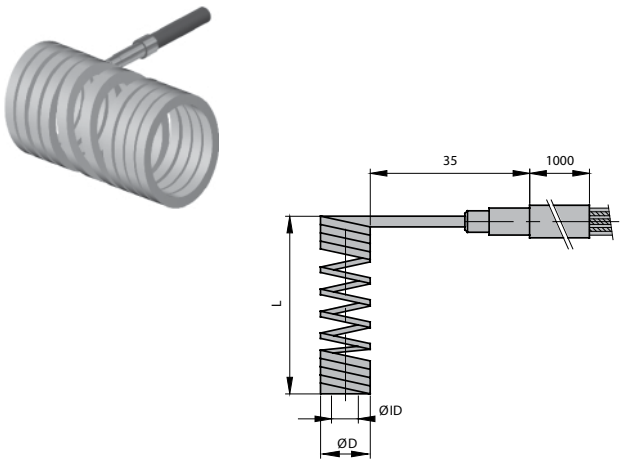
Adapter shanks



REF	L	L1	D
HBA 7640	75,5	67,5	40

WRPS

Square coil heaters with thermocouple type 'J'



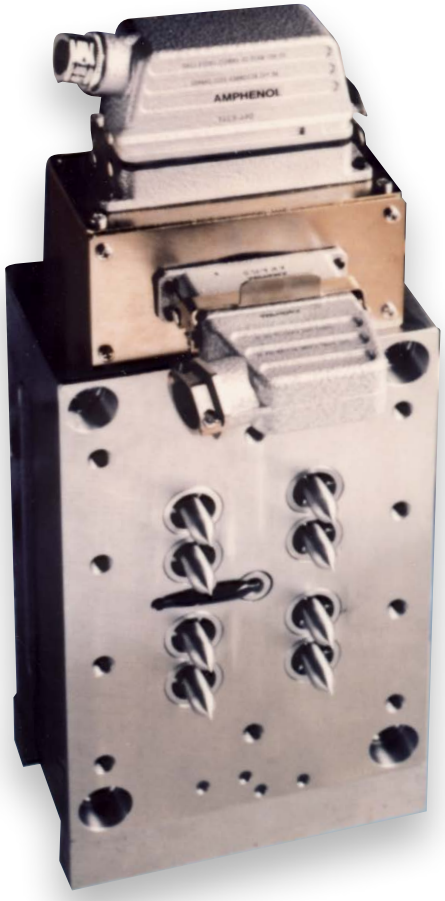
REF	L	D1	D	Watt 230 V
WRPS 42/91	57	11,98	18,4	300

CAD reference point

02/02/2017

MILACRON®

Construction

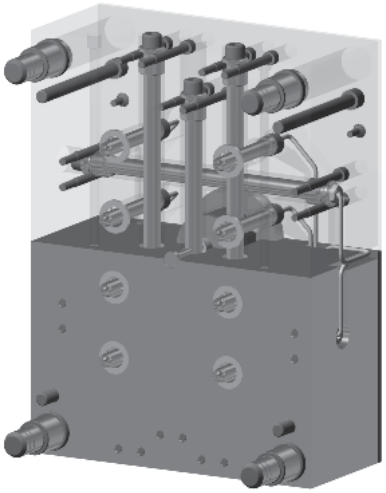


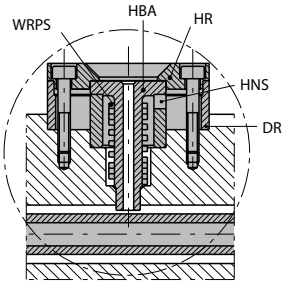
DME

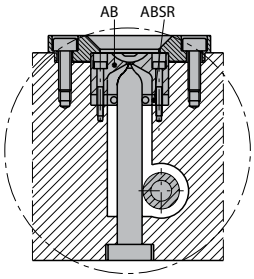
02/02/2017

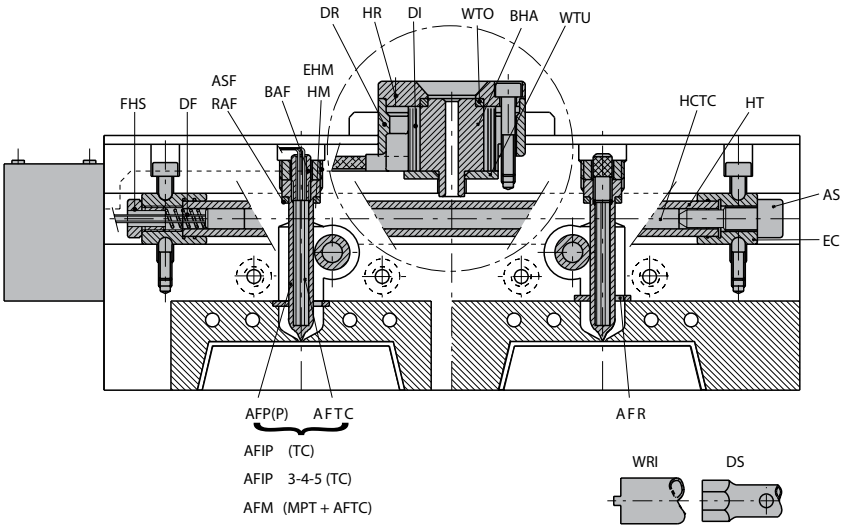
Info

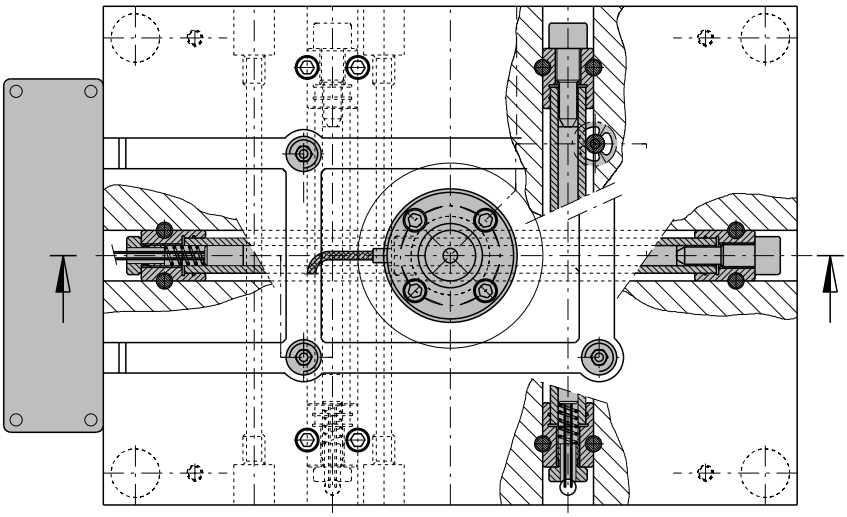
Guidelines for the construction of a distributor block











A
Min dimensions:

Without AFR	With AFR
Min. 23 mm (Micro)	Min. 27,5 mm (Micro)
Min. 27 mm (Mini)	Min. 32 mm (Mini)
Min. 30 mm (Standard)	Min. 35 mm (Standard)
Min. 40 mm (Maxi)	Min. 41 mm (Maxi)

B
45 mm (Micro)
45 mm (Mini)
55 mm (Standard)
90 mm (Maxi)
} Consult DME according to the application

C
Expansion allowance between end caps and distributor tube: length ≤ 600 mm = 1,5 mm
length ≥ 600 mm = 3,0 mm

D
5,5 mm (Mini)
11,0 mm (Standard)
11,0 mm (Maxi)

E
20 mm (Mini)
25 mm (Standard)
25 mm (Maxi)

F
45 mm (Micro)
45 mm (Mini)
55 mm (Standard)
90 mm (Maxi)
} Consult DME according to the application

G
70 mm (Micro)
70 mm (Mini)
80 mm (Standard)
115 mm (Maxi)

H
20 mm (Mini)
25 mm (Standard)
25 mm (Maxi)

I
Center distance probe to tube:
Micro probes
AFIP 3 { 13 mm with Mini distributor tube / 16 mm with Standard distributor tube
AFIP 4 { 14 mm with Mini distributor tube / 17 mm with Standard distributor tube
Mini probes
AFIP 5 { 15,3 mm with Mini distributor tube / 18,4 mm with Standard distributor tube
AFIP (201-271) { 16 mm with Mini distributor tube
AFP(201-291N) { 19 mm with Standard distributor tube

Standard probes
AFIP (301-601) { 17 mm with Mini distributor tube
AFP (301-601N) { 20 mm with Standard distributor tube / 29,5 mm with Maxi distributor tube
Maxi probes
AFP(502-1102N) { 23 mm with Standard distributor tube 32,5 mm with Maxi distributor tube

J
Insulating plate for cable protection:
thickness 6 - 10 mm

K
Center distance tube to tube
- 17 ± 0,5 mm for distributor tubes diameter 16
- 23,5 ± 0,5 mm for distributor tubes diameter 22,22
- 42,5 ± 0,5 mm for distributor tubes diameter 41,27
- 20 ± 0,5 mm for combination diameter 16 with diameter 22,22
- 33 ± 0,5 mm for combination diameter 22,22 with diameter 41,27

L
Centering ring
Position: pin always opposite the distributor tube

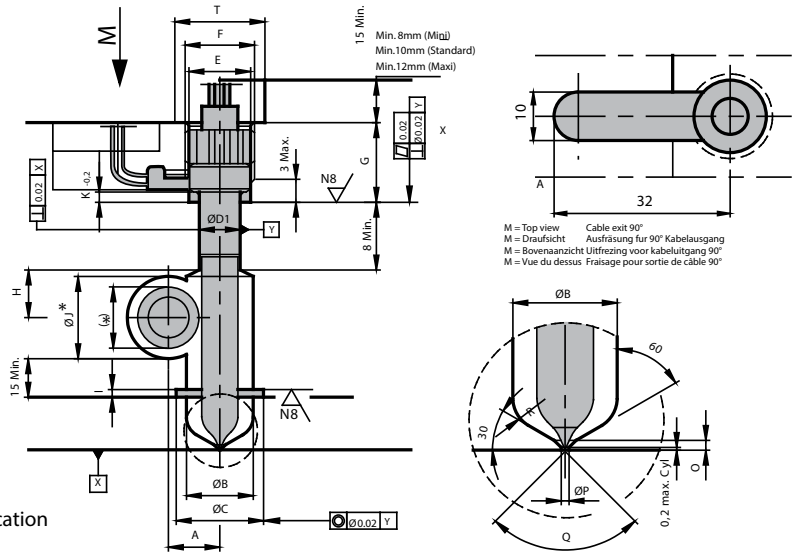
M
Minimum distance of the cooling lines to the distributor bore and/or probe bore = 10 mm.

CAD reference point

02/02/2017

Construction instructions

AFP



(*) Tube
* Consult DME depending on the application

Type	Mini	Standard	Maxi
REF	AFP (201-291 N)	AFP (3016-601 N)	AFP (502-1102 N)
(*) Ø16 -> A	16	17	-
(*) Ø22,22 -> A	19	20	23
(*) Ø41,27 -> A	28,4	29,5	32,5
(*) Ø16 -> H	14,5	14,5	-
(*) Ø22,22 -> H	18,5	18,5	27,5
(*) Ø41,27 -> H	-	27,5	27,5
(*) Ø16 -> J*	24	-	-
(*) Ø22,22 -> J*	32	32	32
(*) Ø41,27 -> J*			
B MIN	23	26	32
C H7	Ø31	Ø34	Ø40
D1 H7	Ø14	Ø15,9	Ø22
E	Ø19,5	Ø24	Ø30,5
F	M22	M27	M32x1,5
T MIN	27	30	40
G MIN	25	27,5	27,5
I AFR $^{+0,02}_{0}$	3,0	3,0	3,0
K	3	4	4
M Cable exit	Straight	Straight	Straight
O	1,5	2	2
P MIN	0,8	1,0	1,0
Q	80°	80°	90°
R	6	8	13

B larger with AFR

CAD reference point

02/02/2017

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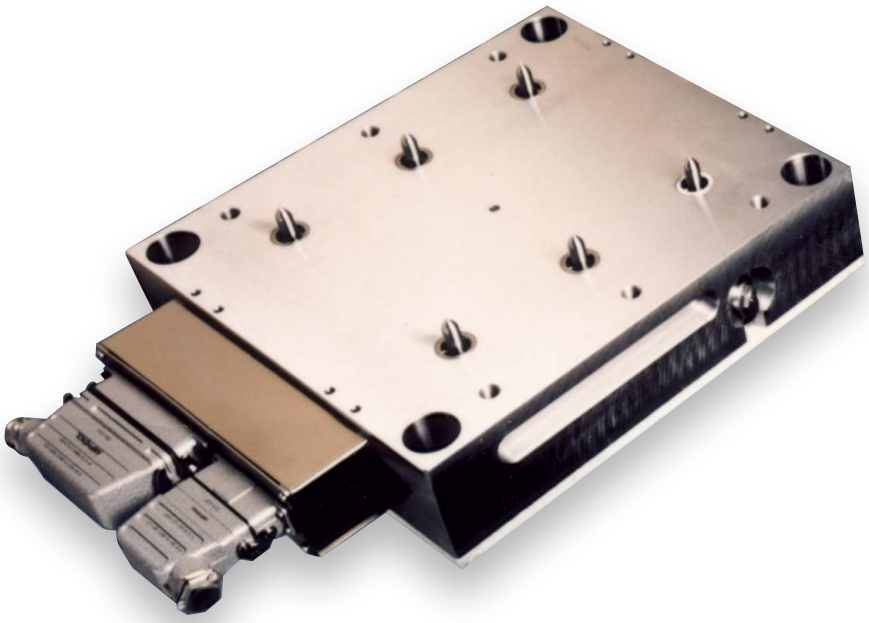
Start up

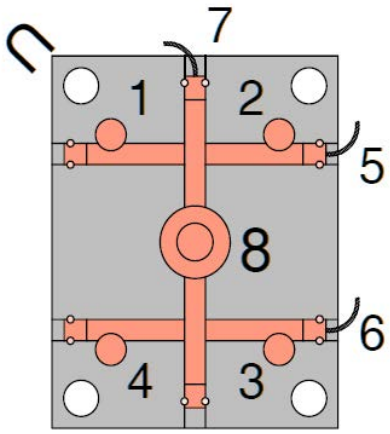


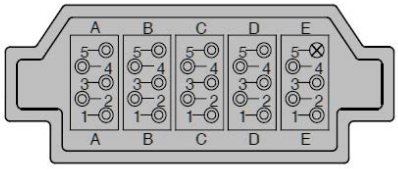
DME

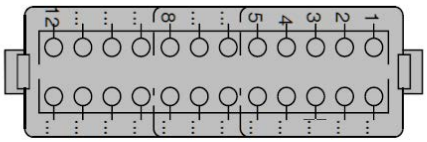
02/02/2017

MOLD CHECK-OUT

1. Guidelines for zone numbering: Zone number 1 is the probe closest to the "U" corner. This is stamped on the mold and indicates the position of the undersized leader pin. The numbers for the other probes run in the most logical order (mostly clockwise). The distributor bores are next and the one closest to the "U" corner takes the next number. The remainder of the distributor bores are numbered working up through the different levels with the heated adapter taking the last number.
2. Connect electric power and thermocouples according to the wiring diagram.
3. Connect mold to the mold temperature controller.
4. Check mold cooling for operation.
5. Switch on temperature controller
6. Adjust in 50 °C increments until operating temperature is reached.







POWER	Contact numbers
Zone	PIC 24 G
1	A1 - A2
2	A3 - A4
3	B1 - B2
4	B3 - B4
5	A5 - B5
6	C1 - C2
7	C3 - C4
8	D1 - D2
9	D3 - D4
10	C5 - D5
11	E1 - E2
12	E3 - E4

T.C.	MTC-5-G	MTC-8-G	MTC-12-G
Zone	+ -	+ -	+ -
1	1 - 6	1 - 9	1 - 13
2	2 - 7	2 - 10	2 - 14
3	3 - 8	3 - 11	3 - 15
4	4 - 9	4 - 12	4 - 16
5	5 - 10	5 - 13	5 - 17
6		6 - 14	6 - 18
7		7 - 15	7 - 19
8		8 - 16	8 - 20
9			9 - 21
10			10 - 22
11			11 - 23
12			12 - 24

START-UP

1. Bring machine cylinder up to required temperature, purge cylinder and leave screw in forward position.
2. With machine in "Manual" mode, open mold and bring machine cylinder fully forward into molding position with machine nozzle in contact with the locator of the mold.
3. Set screw back pressure and RPM to maximum, and extrude material into distributor block until filled. Material should appear at gates. Screw will automatically recover, indicating that distributor block is full. (Setting the back pressure and screw RPM to max. are for filling block only and not for use during processing).
4. Turn on controllers with set points to the recommended melt temperature of the material being used.
5. When deviation meters have stabilized, the temperature set points have been attained and normal molding can now begin.
6. During injection adjust the temperature of the distributor, adaptor and machine so that perfect units are produced.

SERVICING

1. Screwing of the mold plate to the distributor plate makes for easy access for mold separation. Remove fixing screws on the mold plate (fixed side), close press.
2. With mold closed, fix carrier or bolt to the mold plates. Open press slowly. Then one has access to all probes and gates. Remove any impurities at the gates. Close press. Remove carrier, replace fixing screws, open up mold. Screw mold plate to distributor plate.

CARTRIDGE HEATER REPLACEMENT

Distributor cartridge heater:
Switch off temperature controller, take out plug, cut off connection leads to the cartridge. Remove positioning screws and knock-out cartridge heater. It is not necessary to dismantle the mold.

Probe cartridge heater:
Switch off temperature controller, take out plugs. Close press and remove fixing clamps of the fixed half of the

mold, fix carrier or bolt to the mold plates. Open press slowly. Then one has free access to all probe cartridge heaters. Remove hold down nuts, remove heater and replace with new one. Make sure all wire constructions are satisfactory and no wires can be trapped. Slowly close press and replace fixing screws. Remove carrier or bolts and open press. Reconnect power and thermocouple cables.

ASSEMBLY GUIDELINES FOR HCTC

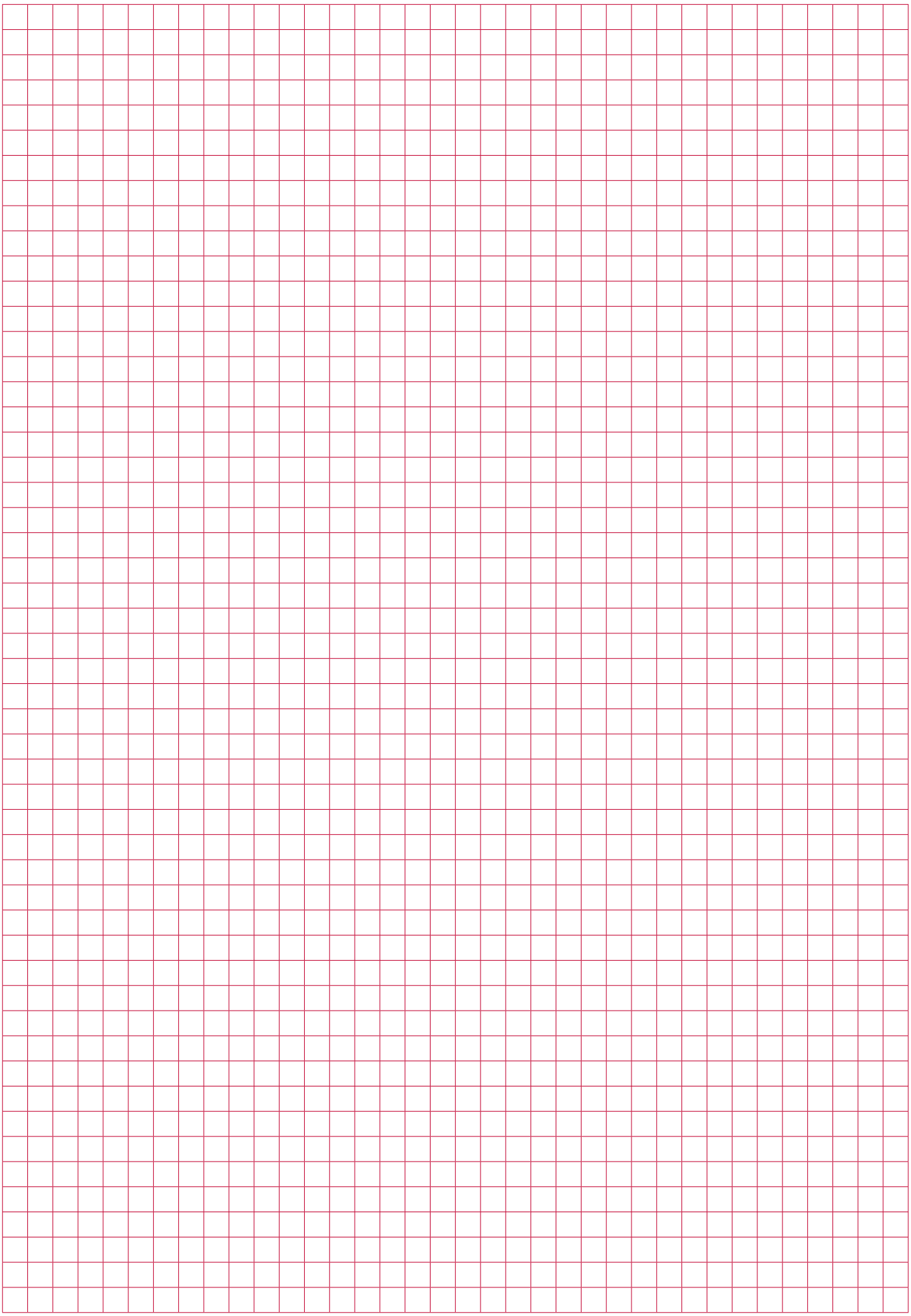
Conditions:

Distributor bore and tube must be free from dirt, oil, and fats. Distance screw must be screwed into the correct position in the end caps. Wire channels must be large enough and all sharp edges removed.

Assembly :

Caution! Do not use any assembly materials as heat conductive paste, etc.. for the cartridge heaters.

1. The distributor cartridge heaters are pushed into the already assembled distributor tube until they reach the stop screw.
   Caution! The distributor cartridge heater must fit easily into the bore.
2. Thermocouple and power cables can then be connected to the terminal housings.
3. Continuity checks on the connected heating elements should be carried out using a universal electrical measuring appliance.
   Caution! Before commissioning the hot-runner system, re-check that the distributor cartridge heaters lie against the stop screws.



02/02/2017

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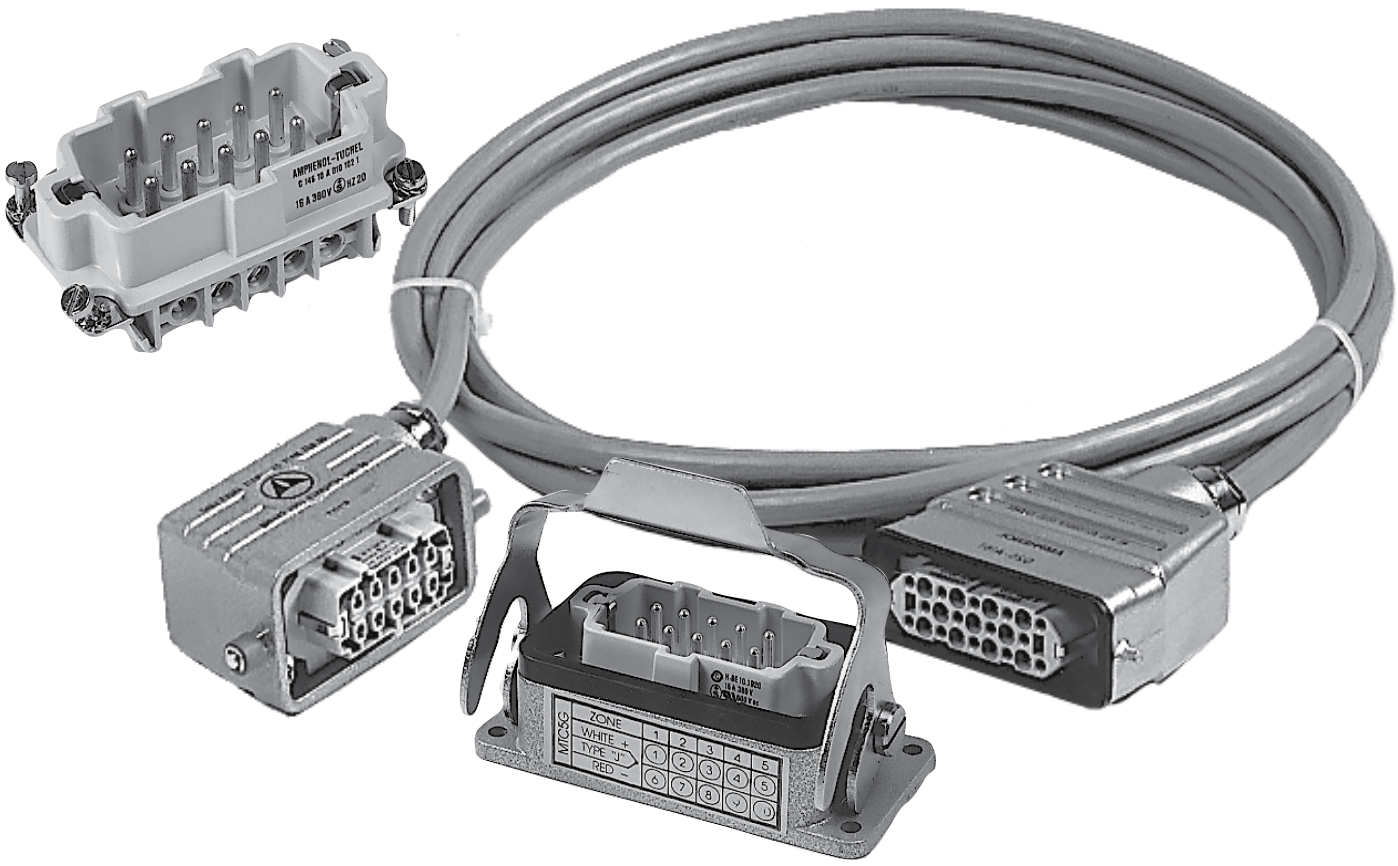
Accessories



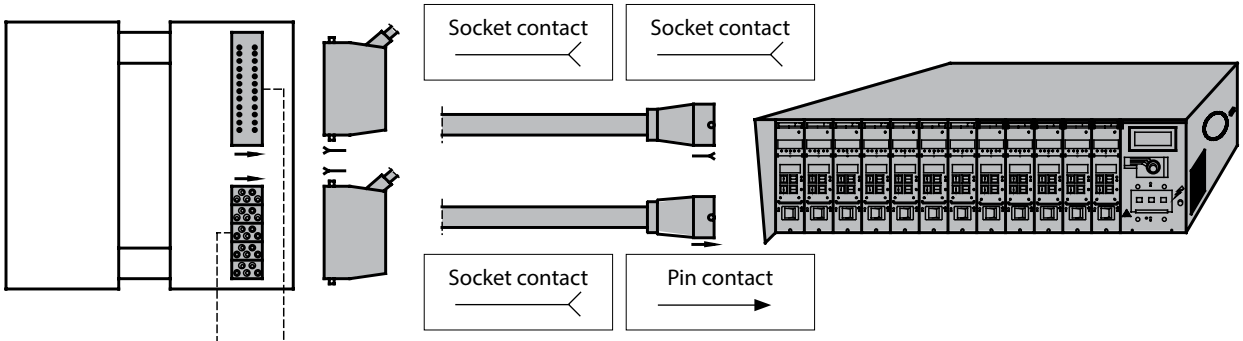
DME

02/02/2017

Wiring instructions for DME heaters

1. Power wires can only be extended with crimp connectors (HWCC-1,2 and 5) and power wires of the same cross-section area (total length max. 8 m).
2. Fe-Co thermocouple wires can only be extended with Fe-Co wires. With the exception of the polarity of the extension cable (US standards: red = negative, white = positive; European standards: red = positive, blue = negative). One must take care that the thermocouple wires are in good contact with the cable joint.
3. Mold power input connector (PIC-24-G) and terminal mounting box (PTCX, PICX, PTC) must be connected with the protective conductor to the mold.
4. Take care that wiring is correct to the position of the modules.
5. Use Ohm-meter to check each heater for proper function prior to starting the ***DME*** Hot Runnerless System.

Wiring diagram



TC Wiring code

DIN	+ red/ - blue
USA	+ white / - red
EUROPE	+ black / - white

Mold power input connector

REF	PIC24G Zone	Contr. No.
	1	A1, A2
	2	A3, A4
	3	B1, B2
	4	B3, B4
5-zone MF	5	A5, B5
	6	C1, C2
	7	C3, C4
8-zone MF	8	D1, D2
	9	D3, D4
	10	C5, D5
	11	E1, E2
12-zone MF	12	E3, E4

Thermocouple connector

REF MTC5G

Zone	Contr. No. +	–
1	1,	6
2	2,	7
3	3,	8
4	4,	9
5	5,	10

REF MTC8G

Zone	Contr. No. +	–
1	1,	9
2	2,	10
3	3,	11
4	4,	12
5	5,	13
6	6,	14
7	7,	15
8	8,	16

REF MTC12G

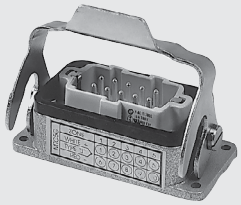
Zone	Contr. No. +	–
1	1,	13
2	2,	14
3	3,	15
4	4,	16
5	5,	17
6	6,	18
7	7,	19
8	8,	20
9	9,	21
10	10,	22
11	11,	23
12	12,	24

CAD reference point

02/02/2017

MTC

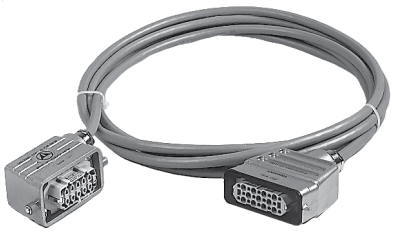
Thermocouple connectors



REF	Zones
MTC5G	5
MTC8G	8
MTC12G	12

TC

Thermocouple cables



❶ to mold

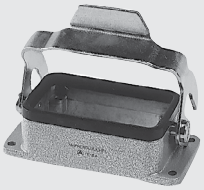
REF	Zones	Cable length
TC54-5G	5	4,5 m
TC84-5G	8	4,5 m
TC124-5G	12	4,5 m

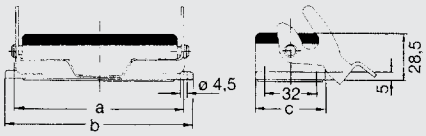
to frame ❷

REF	Zones	Cable length
TC5DE	5	0,5 m
TC8DE	8	0,5 m
TC12DE	12	0,5 m

C14610F

Thermocouple cables

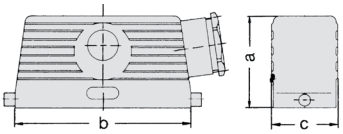




REF	a	b	c	contacts
C14610F0100011	83	93	43	10+
C14610F0160011	103	113	43	16+
C14610F0240011	130	140	43	24+

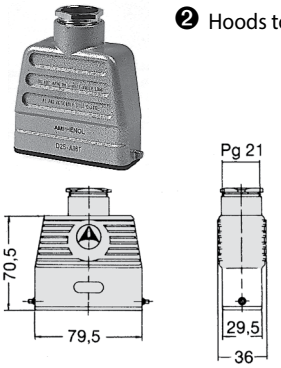
C14610G

❶ Hoods end entry



REF	a	b	c	contacts
C14610G0101061	51	73	43	10+
C14610G0161061	61	93	43	16+
C14610G0241061	61	119,5	43	24+

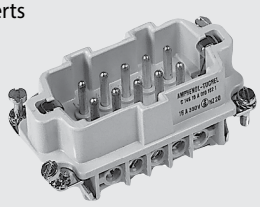
❷ Hoods top entry

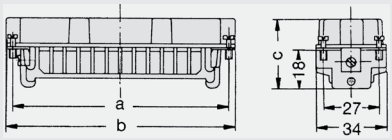


REF
C14610G0252002

C14610A

Male inserts

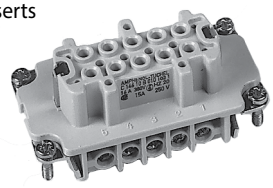


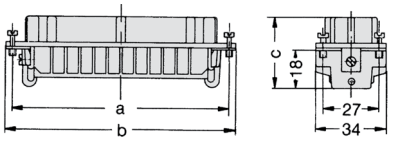


REF	a	b	c	contacts
C14610A0101021	57	64	34	10+
C14610A0161021	77,5	84,5	34	16+
C14610A0241021	104	111	34	24+

C14610B

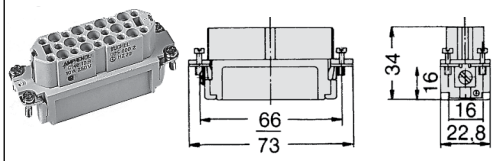
❶ Female inserts





REF	a	b	c	contacts
C14610B0101021	57	64	34	10+
C14610B0161021	77,5	84,5	34	16+
C14610B0241021	104	111	34	24+

❷ Female inserts (without contacts)



REF
C14610B0250002

VN02

❷ Female socket contacts

REF
VN02

OE...

Thermocouples cables

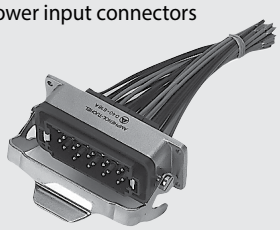
REF	Identification	
OE160-5	**FeCo** Thermocouplescables(**tobeorderedperm.)	16poles0,5mm2(FeCo)
OE240-5		24poles0,5mm2(FeCo)

CAD reference point

02/02/2017

PIC

Mold power input connectors



REF	Amp.
PIC24G	15

MPC

Mold power cables

❶ to mold

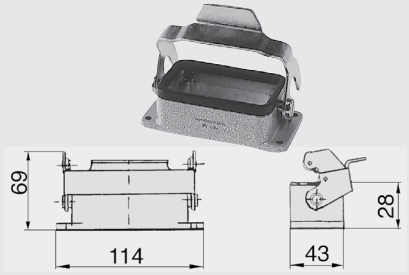
to frame ❷

REF	Amp.	Cable length
MPC244-5G	15	4,5 m

Conversion table			
REF	Cable length	Male	Female
MPC2524	0,5 m	24	25
MPC2425	0,5 m	25	24

C14610P

Housing bulkhead mountings



REF
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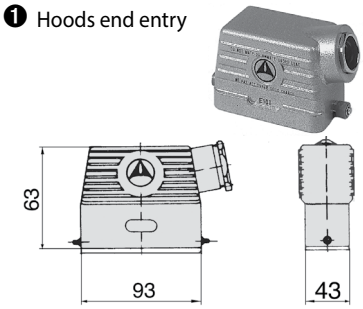
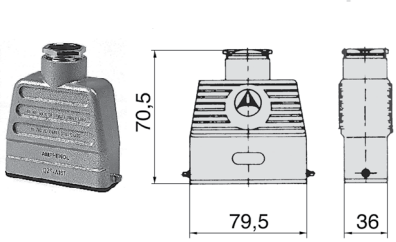
C14610G

❶ Hoods end entry



REF
C14610GHL24P

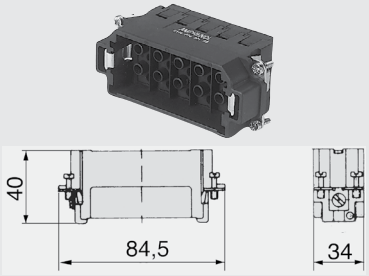
❷ Hoods top entry



REF
C14610G0252002

C14610A

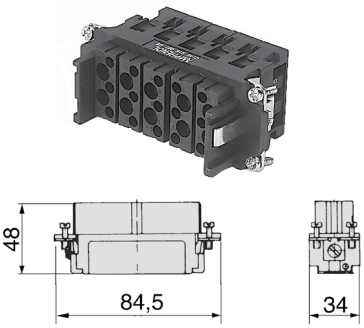
Male inserts (without contacts)



REF
C14610A2416

C14610B

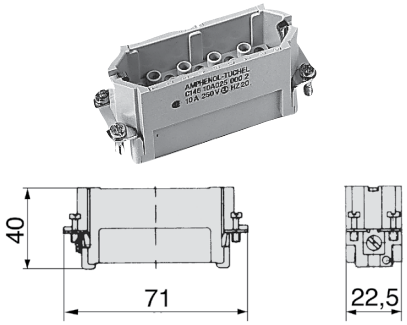
❶ Female inserts (without contacts)



REF
C14610B2416

C14610A

❷ Male inserts (without contacts)



REF
C14610A0250002

VN01

Male pin contacts

REF	
VN012416	1,5mm²
VN012420	2,0mm²

VN02

❶ Female socket contacts

REF	
VN022416	1,5 mm²
VN022420	2,0 mm²

VN01

❷ Male pin contacts

REF
VN01

Powercabels (1,5 mm², 25 poles)

OE...

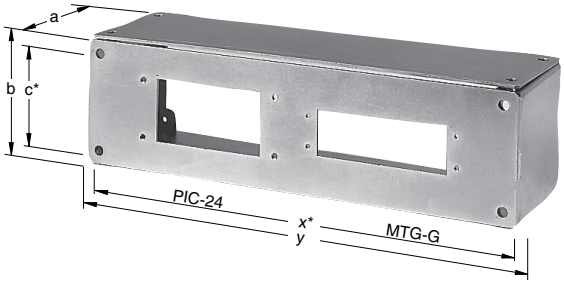
REF	Identification	
OE251-5	Powercabels (**to be ordered per m.)	25 poles 1,5 mm2

CAD reference point

02/02/2017

Terminal mounting boxes for power and thermocouple connectors — PTCX

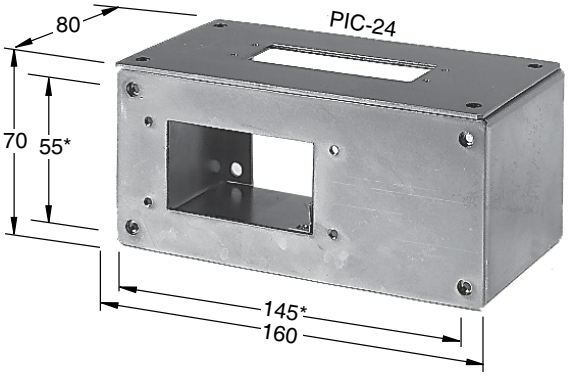
REF	a	b	c	x	y	Installation possibilities for
PTCX5K	70	70	55	243	258	PIC24G / MTC5G
PTCX8K						PIC24G / MTC8G
PTCX12K						PIC24G / MTC12G



* Distance of mounting screws on the mold with M5 x 15.

Terminal mounting boxes for power and thermocouple connectors — PICX

REF	Installation possibilities for
PICX245K	PIC24G / MTC5G
PICX248K	PIC24G / MTC8G
PICX2412K	PIC24G / MTC12G

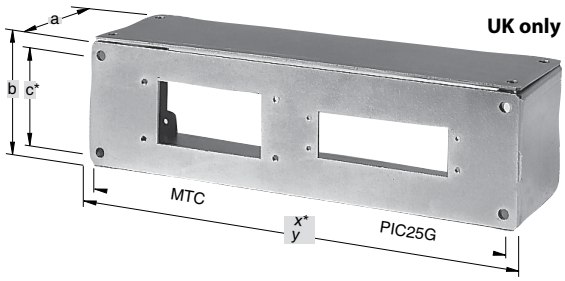


* Distance of mounting screws on the mold with M5 x 15.

Terminal mounting boxes for power and thermocouple connectors — PTC

REF	a	b	c	x	y	Installation possibilities for
PTC5TBG	105	60	38	205	220	PIC5G / MTC5G
PTC8TBG	105	60	38	225	240	PIC8G / MTC8G
PTC12TBG	105	60	38	253	265	PIC12G / MTC12G

UK only

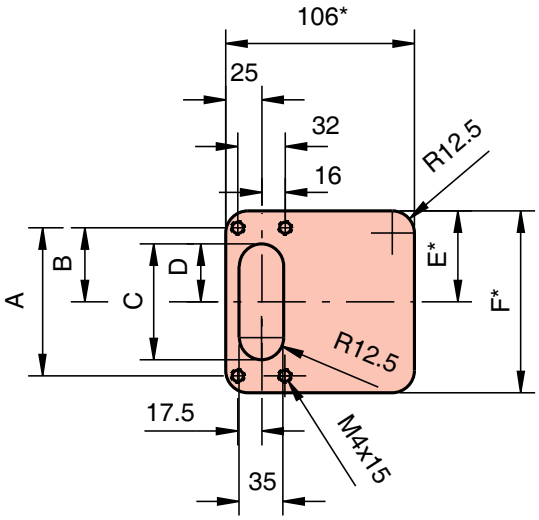


* Distance of mounting screws on the mold with M5 x 15.

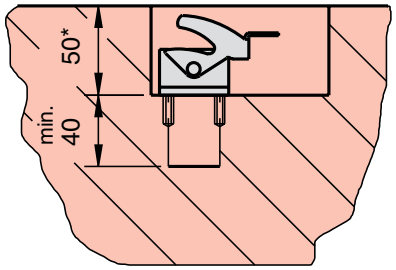
CAD reference point

02/02/2017

Pocket for thermocouple connectors MTC...G

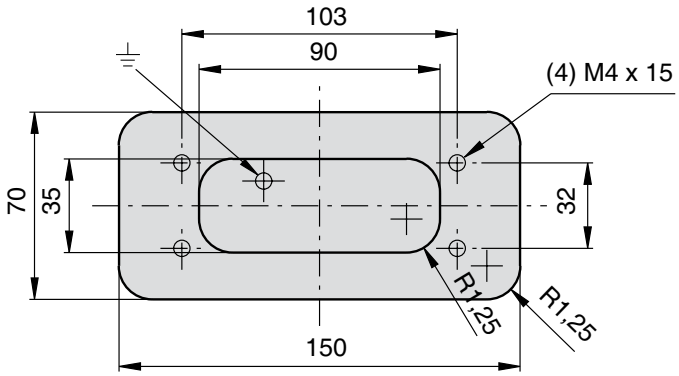


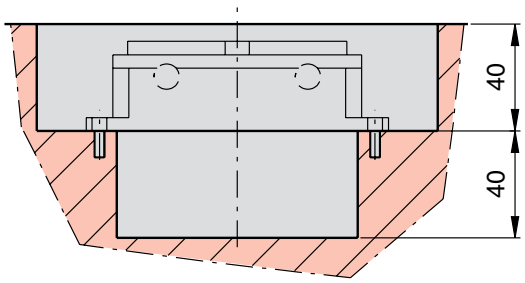
Note: Drawing depicts below flush mounting.
For surface mounting, disregard dimensions marked with *.



Dimensions	For connector		
	MTC5G	MTC8G	MTC12G
A	83	103	130
B	41,5	51,5	65
C	65	85	112
D	32,5	42,5	56
E	51	61	74,5
F	102	122	149

Pocket for mold power input connectors PIC24G





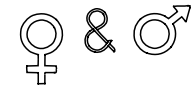
Note: Drawing depicts below flush mounting.
For surface mounting, disregard dimensions marked with *.

CAD reference point

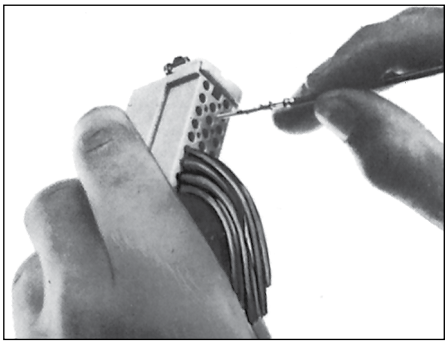
02/02/2017

Removal tools for pin contacts VN-01 and socket contacts VN 02

FG / FGN



REF	for
FGN2416	VN012416 / VN022416



Rear insertion

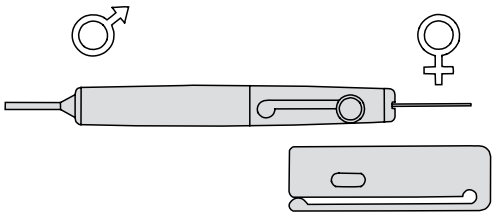
Contact to snap in audibly

Check longitudinal clearance of 0,2 mm

Front release

Female contact

Male contact



REF	for
FG0300146	VN01 / VN02

Contact crimp tools

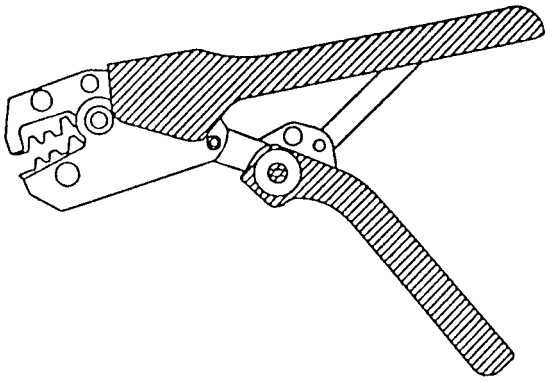
TA

REF	for
TA0100146	VN01
	VN02

Contact crimp tools

FAN

REF	for
FAN2416	VN01241620
	VN02241620

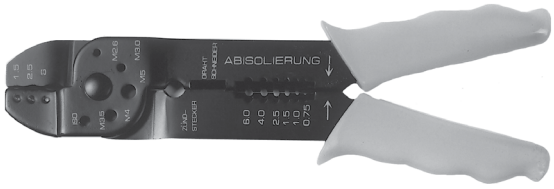


CAD reference point

02/02/2017

KT

Crimptools



REF	for
KT9500014	HWCC1

HWCC

Crimp connectors

REF	AMPS	Rating
HWCC1 (COOL-ONE)	10-15	16-22 RED
HWCC2 (COOL-ONE)	10-15	14-16 BLUE
HWCC5 (HOT-ONE)	15-30	10-12 YELLOW

ABC

Fuses for SSMX and DSS

REF	Amp.
ABC1	1
ABC5	5
ABC10	10
ABC15	15

CAD reference point

02/02/2017

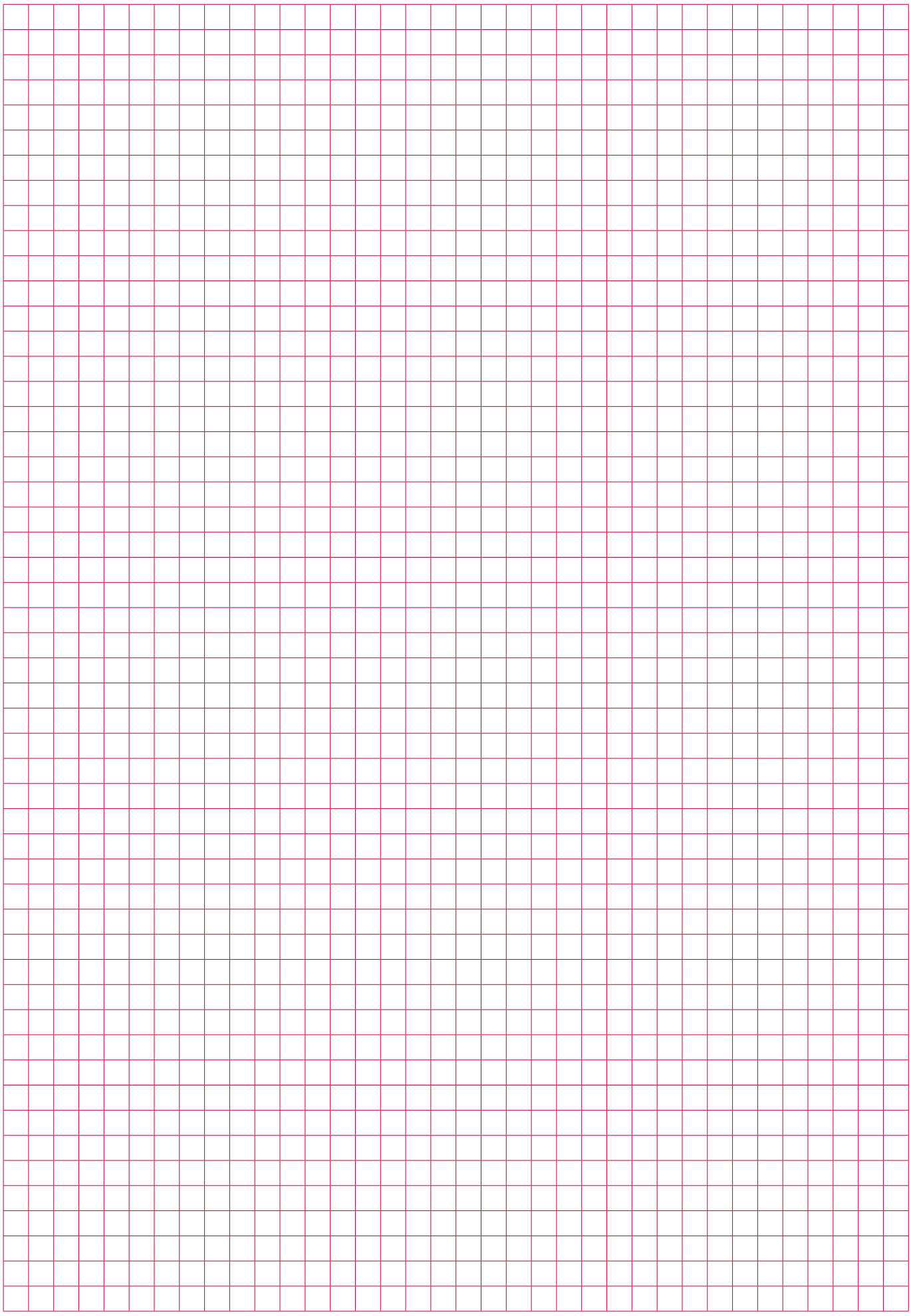
MILACRON®

INDEX

ALPHABETICAL INDEX

MILACRON®

02/02/2017



02/02/2017

GENERAL CONDITIONS OF SALE DME EUROPE

1. CONCLUSION OF CONTRACT - APPLICATION
The contract is validly entered into and the order is accepted after written confirmation by seller. These sales conditions apply to the exclusion of any other terms or conditions, unless expressly accepted in writing beforehand by the vendor.
Seller has 30 (thirty) days since the reception of the order to accept or to refuse it. During this period, buyer shall not withdraw his order.
Absence of any written confirmation of the order shall only be interpreted as being an implicit acceptance in case of performance of the order by seller.

2. PAYMENT
Unless otherwise agreed in writing, invoices are payable in the stated currency within 30 (thirty) days after invoice date to the-bank designated by seller. Transfer charges are for account of buyer.
If buyer does not pay within this term, seller shall automatically have ipso jure and without any prior formal notice, the right to charge legal interest plus 2 % from due date of the invoice. Moreover, in case of late payment, a fixed indemnity corresponding to 10 % of the payable amount shall automatically be due from the first day following the due date, without prejudice to seller's right to prove higher damage and ask for corresponding indemnity. Should payment be in foreign currency, seller has the right to adapt the foreign currency in case of depreciation-of this foreign currency in regard of the euro.
Should payment of the delivered goods be in instalments, the non-payment of one of the instalments gives seller the right to terminate the contract. The payments, which were done until then, shall remain property of seller as indemnity, without prejudice to the right to claim further damages or to the right to require the performance of the contract.
Payment of advance shall not give buyer the right to terminate the contract upon reimbursement of the paid advance, If payment is done by bill of exchange or check, payment is deemed satisfied only when the bill of exchange or the check is honoured.
Place of payment is always Mechelen even if payment is done with bill of exchange.

3. RETENTION OF TITLE
Delivered goods remain property of seller until full payment has been received by seller. The sale of an unpaid item by buyer to a third party results in automatic assignment of the debt due by the third party to buyer, inclusively the retention of title, to seller. Seller has then the authority to take any necessary means in order to validly assign towards the third party. Seller may retake unpaid goods at any time and he may inform any client and/or any subcontractor of buyer about the fact that seller is and remains the only owner of the concerned goods until full payment.
The purchaser undertakes to carefully keep the goods that have not been paid for, and undertakes not to pledge them or use them in any other way as a guarantee or security. The purchaser shall inform third parties who may apply any security rights over his assets (such as, but not limited to, the lessor of the premises occupied by the purchaser) that the products are and shall remain the property of the vendor until full payment of all sums owed by the purchaser to the vendor, and in the event of an attachment
or other measures taken by third parties that apply to products for which full payment has not yet been made the purchaser undertakes to immediately inform the vendor of this to enable him to apply his rights.

4. RISKS
Notwithstanding the preceding provisions, the risk transfers to buyer as soon as he has the goods at his disposal.

5. DISPATCHING OF INSIGNIFICANT VALUE
Each dispatch of less than € 50 will be increased with costs of payments and-may, at sellers option, be sent cash on delivery (COD).

6. PRICE OFFERS AND PRICE LISTS
Price offers and price lists are without obligation and are subject to change without any previous notice.
Any information released by seller is delivered in good faith and seller shall not be responsible for the choice of material and goods.

7. PRICE AND DISPATCHING
All prices are ex works. Transportation, duties and taxes for account of buyer, unless seller's previous and express written specification to the contrary. Seller shall send goods by the fastest and most economic way at the risks of buyer. Goods may be insured by seller at buyer's option, the insurance premiums are for buyer. Seller is not responsible for the choice of packing.

8. DELIVERY
Date of delivery is the date when the goods are ready for inspection at the indicated place. Place of origin is Mechelen, Belgium, or any other place indicated by seller. Seller is not responsible for any late delivery, except those delays due to his own fault or gross negligence.

9. RETURNING OF GOODS
No goods can be returned without seller's previous, express and written consent. If buyer commits an error in ordering, the retaking of goods is possible only for inventory standard items. Goods must be returned within 15 (fifteen) days after invoice date and all goods must be in original conditions,' all costs of transport are for buyer, as well as insurance and repacking costs. Special-order goods, marked or used items are non-returnable.

10. DEFECTS
Seller warrants defects in material and/or workmanship. Warranty is limited to the replacement or repair, at seller's option, of any merchandise found defective during 1 month. This warranty does not include defects due to buyer's fault or to abnormal use, bad maintenance, imperfect installation, buyer's inadequate repair, unforeseeable circumstances or in case changes were brought to material without previous and express written approval of seller.
Notice of conspicuous defects must be given to seller by registered letter sent within 10 (ten) working days following date of delivery.
Notice of hidden defects must be given to seller by registered letter with in 10 (ten) working days after date of discovery, and in any case, within a 10-month term following date of delivery.
Seller is not responsible for any damage and in particular salary and material costs, losses, loss of profit or loss of a chance incurred by buyer, unless it is demonstrated that defect is due to seller's gross or intentional fault. If seller is responsible for defect, seller has the right either to terminate the contract and to pay back all the invoiced prices or to replace the delivered product within a reasonable term. If goods for repair must be transported, costs and risks of this transport are for buyer.
In case seller is responsible for any damage, this will be limited to the foreseeable damage with a maximum amount corresponding to the amount of the product's invoiced price.
Should a third party lodge a claim against seller to obtain payment of an indemnity for a damage for which seller is not responsible in accordance with the present conditions or for a higher amount than the one seller is responsible for, buyer will warrant seller against those claims.

11. DESCRIPTION
Only product descriptions used in seller's latest literature and correspondence with buyer, are binding for description of goods.
Buyer is responsible for using items in conformity with all regulations, including but not limited to, the safety regulations in force at the place of use.

12. SPECIFIC ORDERS
For the performance of a special work, the project signed by buyer is binding to the extent it has been accepted by seller.
For the performance of such work, special conditions may be required. In case of any inconsistency between general conditions and special conditions, the special conditions shall apply. Should special conditions be unclear, they shall be interpreted in light of the general conditions.

13. ACT OF GOD
Seller shall not pay any damage for non-performance or late performance of his undertakings due to Act of God. Act of God includes in particular and without being limited thereto, strike, lock-out, and the non-performance by seller's suppliers of their undertakings.

14. VALIDITY AND INDIVIDUAL CLAUSES
If one or more provisions of these present general conditions are held to be invalid, the remaining provisions will continue to be valid and enforceable, and parties will agree upon other provisions having an economic effect that corresponds closest to the economic effect of the invalid provision(s).

15. WAIVER
In case seller does not exercise one of his rights in accordance with the present conditions, this shall not be interpreted as a waiver of these rights.

16. APPLICABLE LAW – COMPETENT COURTS
This sales contract will be governed by Belgian law. The competent court is the Commercial Court of Mechelen, without prejudice to seller's right to introduce the case before another competent court.

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