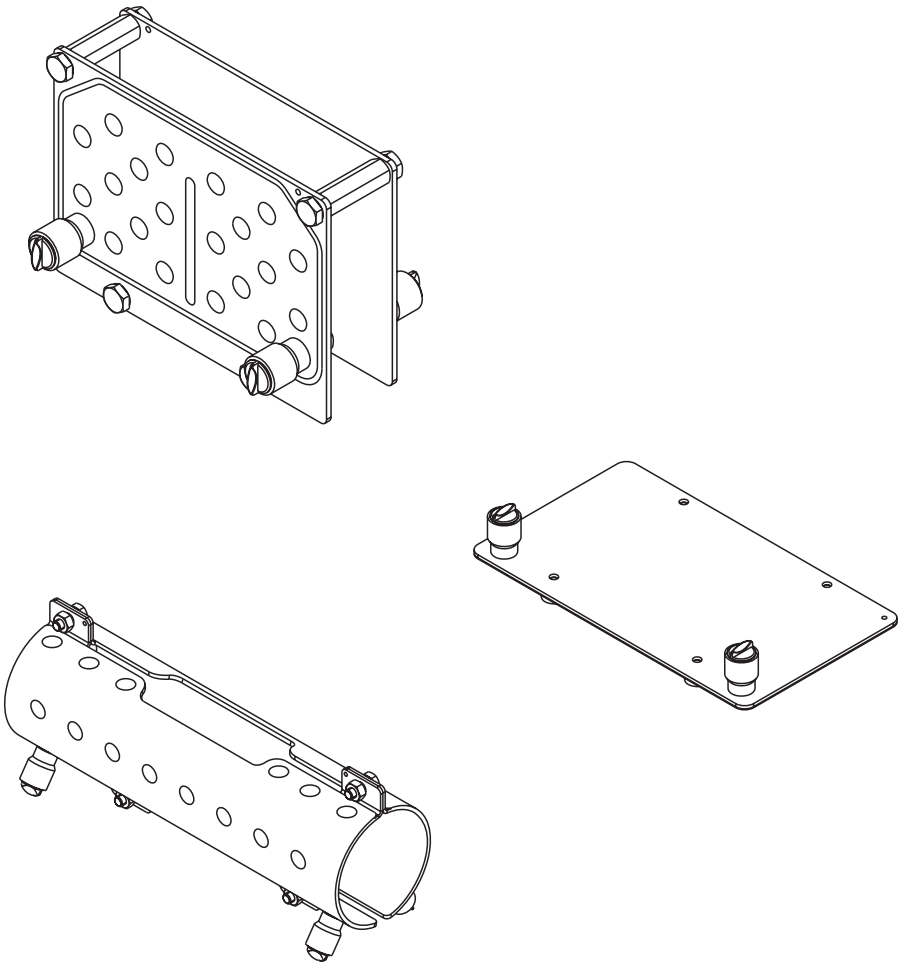
Level Pressure Flow Temperature Liquid Analysis Registration Systems Components Services Solutions

Operating Instructions

Promass

Heating jacket for Promass A, E, H, I, M, S, P



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Endress+Hauser

People for Process Automation

Contents

1 Safety instructions

1.1 Designated use

The heating jacket serves to transfer heat to maintain temperature of fluids in the Promass sensors of the M, E, A, H, I, S and P design
Resulting from incorrect use or from use other than that designated, the operational safety of the measuring devices can be suspended. The manufacturer accepts no liability for damages being produced from this.

1.2 Installation, commissioning and operation

Installation, commissioning and maintenance of the instrument must be carried out exclusively by trained specialists authorised by the facility's owner-operator. The specialist must have read and understood these Operating Instructions and must adhere to them
The manufacturer reserves the right to modify technical data without prior notice.
Your Endress+Hauser distributor will supply you with current information and updates to these Operating Instructions.

1.3 Operational safety

Note the following points:
- Heating jackets can not be combined with sensor which have purge connections and/or rupture disks.
- When using heating jackets, it is recommended to use the remote version of the sensor and transmitter.
- When using the remote version at very high fluid and heating temperatures, we recommend the use of the "long-necked version" (= remote version for heating), so that the ambient temperature of the connection housing and the connecting cable is not exceeded.
- With the compact version, make sure you take appropriate measures (orientation, etc.) so that the maximum ambient temperature for the transmitter is not exceeded, otherwise electronic components will be driven outside their specifications. You should particularly avoid this for components which are used for explosion protection.
- The permitted pressure of the heating medium is specified on the nameplate → Page 6.
- Heating mediums are acceptable, water, water vapour, and other non–corrosive liquids. If using oil as heating medium consultation is to be held with Endress+Hauser.
- Deposits by dirty heating media or calcareous water can limit an even distribution of the heating medium in the heating jacket. A faultless function of the heating jacket will not be then ensured.

Warning!
Danger of injury/burning from hot surfaces!
During operation, the surfaces of the heating jacket and those of the conveyance lines for the heating medium may become very hot and will lead to burns if touched.
The customer is responsible for mounting insulation.
If the heating jacket and the conveyance lines are insulated, you must wait a long enough period of time for the jacket to cool after the insulation is removed.

1.4 Return

The following procedures must be carried out before a flowmeter requiring repair, for example, is returned to Endress+Hauser:

- Always enclose a duly completed "Declaration of contamination" form. Only then can Endress+Hauser transport, examine and repair a returned device.
- Enclose special handling instructions if necessary, for example a safety data sheet as per EN 91/155/EEC.
- Remove all residues. Pay special attention to the grooves for seals and crevices which could contain residues. This is particularly important if the substance is hazardous to health, e.g. flammable, toxic, caustic, carcinogenic, etc.

Note!
You will find a preprinted "Declaration of contamination" form at the back of this manual.

Warning!

- Do not return a heating jacket if you are not absolutely certain that all traces of hazardous substances have been removed, e.g. substances which have penetrated crevices or diffused through plastic.
- Costs incurred for waste disposal and injury (burns, etc.) due to inadequate cleaning will be charged to the owner operator.

1.5 Notes on safety conventions and icons

The heating jackets are designed to meet state-of-the-art safety requirements, have been tested, and left the factory in a condition in which they are safe to operate. They can, however, be a source of danger if used incorrectly or for use other than that designated.
Consequently, always pay particular attention to the safety instructions indicated in these Operating Instructions by the following icons:

Warning!
"Warning" indicates an action or procedure which, if not performed correctly, can result in injury or a safety hazard. Comply strictly with the instructions and proceed with care.

Caution!
"Caution" indicates an action or procedure which, if not performed correctly, can result in incorrect operation or destruction of the device. Comply strictly with the instructions.

Note!
"Note" indicates an action or procedure which, if not performed correctly, can have an indirect effect on operation or trigger an unexpected response on the part of the device.

2 Identification

2.1 Device designation

- Promass M and I: The heating jackets consist of two half-shells.
- Promass A: The heating system consists of a heating plate.
- Promass E, H, S, P: The heating system consists of two heating plates.

2.1.1 Nameplate

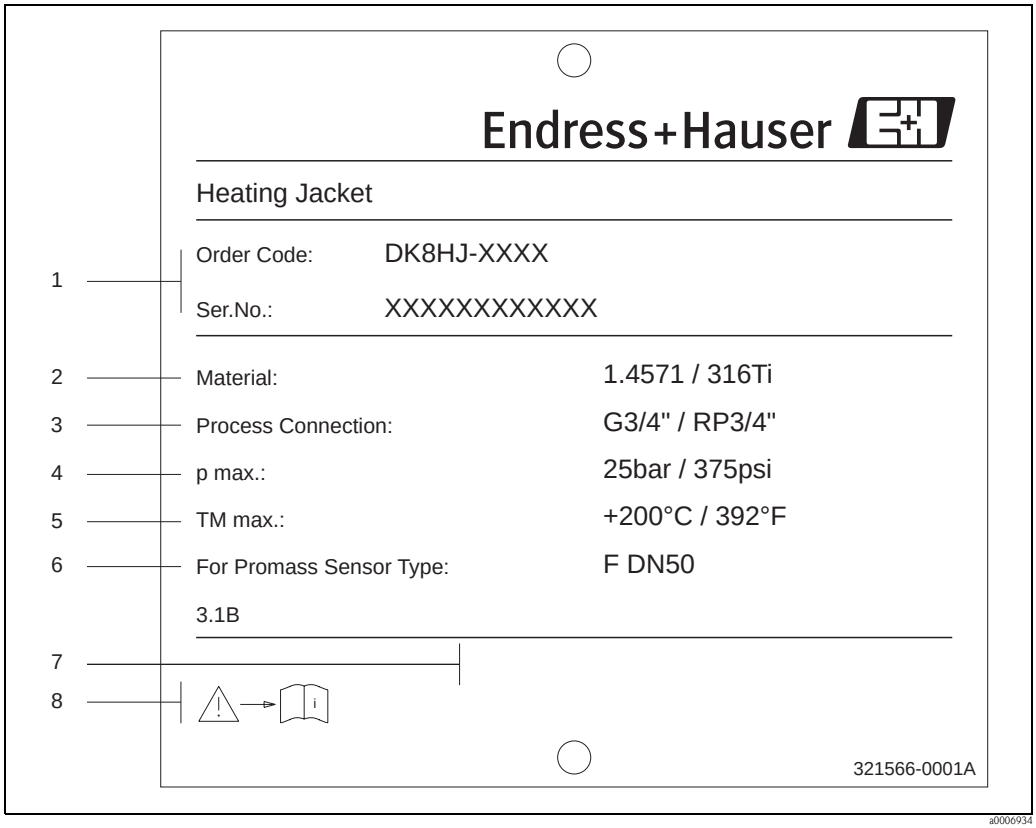


Fig. 1: Nameplate specifications for heating jackets (example)

1 Ordering code: See the specifications on the order confirmation for the meanings of the individual letters and digits.
2 Serial number / year of manufacture
3 Heating jacket material
4 Process connection of the heating jacket
5 Maximum permitted pressure (heating medium)
6 Maximum permitted temperature (heating medium)
7 Corresponding sensor

2.2 Certificates and approvals

The devices are designed to meet state-of-the-art safety requirements, have been tested, and left the factory in a condition in which they are safe to operate. The devices correspond to article 3 (3) of the EEC guideline 97/23/BG (Pressure Equipment Directive) and are laid out and manufactured after good engineer practice.
The devices described in these Operating Instructions thus complies with the statutory requirements of the EC Directives. Endress+Hauser confirms successful testing of the device.

3 Installation

3.1 Incoming acceptance and transport

3.1.1 Incoming acceptance

On receipt of the goods, check the following points:
- Check the packaging and the contents for damage.
- Check the shipment, make sure nothing is missing and that the scope of supply matches your order.

3.1.2 Transport

Transport the devices in the containers in which they are delivered.

3.2 Installation conditions

3.2.1 Dimensions

The dimensions are to be found on Page 7.

3.2.2 Temperature ranges

Temperature ranges of the heating medium find you on Page 10.

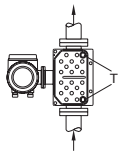
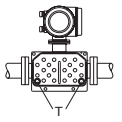
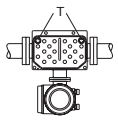
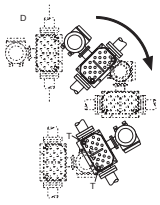
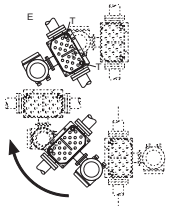
Heating medium – Operating temperature

Caution!
- Always select the orientation of the sensor and the heating jacket so that the maximum ambient temperatures for the measuring electronics are not exceeded Page 10.
- With additional heating jacket insulation, always keep to the minimum safety distances to the device → Page 13 ff.
- Keep to the following ambient temperatures depending on the design of the measuring system:

Device version	Max. ambient temperatures
Compact version	Transmitter: maximal +60 °C (+140°F)
Remote version (standard version)	▪ Connection housing: maximum +60 °C (+140°F) ▪ Operating temperature of connecting cable: maximum +105 °C (+221°F)
Remote version for heating (long-necked version)	Always use the long-necked version when the max. ambient temperature of +60 °C (+140°F) for using the standard remote version cannot be kept to. The long-necked version has a housing support for the thermal separation of sensor and transmitter. This version is used, for example, for applications in which very high fluid and heating medium temperatures are encountered.

The material load curves (pressure-temperature diagrams) for the heating jacket are to be found on Page 12

3.2.3 Orientation

	Vertical	Horizontal	Horizontal	Inclined	Inclined
Transmitter	at the side	at the top	at the bottom	at the bottom	at the top
Sketch	 a0004572	 a0004576	 a0004580	 A0008136	 A0008137
Recommendation	Recommended	Recommended (①)	Recommended (②, ③)	Recommended (①, ④)	Recommended (②, ③, ⑤)

T = Process connection heating jacket

① This orientation is **not suitable** for fluids with entrained solids.
② This orientation is **not suitable** for outgassing fluids.
③ This orientation is **not suitable** for low fluid temperatures.
④ Depending on medium temperatures.
⑤ Depending on heating medium.

3.3 Installing the heating jacket

3.3.1 Mounting kit

Note the following points:
- Screws, nuts, etc. are included in the scope of supply.
- Dimensions and required space Page 13 ff.

Promass M, I

Join the two half-shells of the heating jacket by nuts and bolts.

⚠ Warning!
With large nominal diameters, a support may be required due to the heavy weight of the sensor and the heating jacket. Never use the feed and return pipes of the heating system to support the heating jacket!
The weight data for the sensors are listed in the "Technical data" of the corresponding Operating Instructions.

Promass A

Join the plate of the heating jacket on the sensor by nuts and bolts.

Promass E, H, S, P

Join the two plates of the heating jacket by nuts and bolts.

⚠ Warning!
With large nominal diameters, a support may be required due to the heavy weight of the sensor and the heating jacket. Never use the feed and return pipes of the heating system to support the heating jacket!
The weight data for the sensors are listed in the "Technical data" of the corresponding Operating Instructions.

3.3.2 Mount the isolation

With additional heating jacket insulation, always keep to the minimum safety distances to the device Page 13 ff.

3.3.3 Connecting to in-house heating pipes

Designing and making calculations for a tempered heating system is generally based on the highest heating needs ever to be expected. Pipe network sizing is based on the permitted flow velocities of the heated media (steam, water) or pipe friction loss. The pump capacity, and thus the sizing parameters, result from the total of the overall resistances in the heating system together with the required amount of heated media.

Partial load operation always means an increase in the differential pressure in the overall system. In the case of normal, non-regulated pumps, this effect is intensified by the increasing pump characteristic. In the case of regulated pumps (Δp = constant), the pump pressure is maintained even if the total flow is reduced but is passed on almost completely to existing, still open valves or pipe restrictions due to the greatly reduced pipe loss.

3.4 Post-connection check

Perform the following checks after completing the installation:

Device condition and specifications	**Notes**
Is the device damaged (visual inspection)?	–
Does the device correspond to specifications at the measuring point ?	Page 10 ff.
Installation	**Notes**
Are measuring point number and inscription correct (visual inspection)?	–
Was the correct installation position for the heating jacket selected?	Page 13 ff.
Is safety margin kept by 20 mm (0.79") between user isolation and Sensor?	Page 13 ff.
Process environment / process conditions	**Notes**
Does the run of the line to the connections at the heating jacket accordingly shifted? (seal the connections)?	
Is the device sufficiently secured against vibrations (attachment, support)?	Acceleration up to 2 g by analogy with IEC 68-2-6
The maximum pressure rating of heating system is not exceeded?	Page 10 ff.
Flow of heated medium ensured? Pump characteristic checked?	■ Page 9 ff. ■ Customer documents on heating system

4 Technical data

4.1 Technical data at a glance

4.1.1 Application

The heating jacket serves to transfer heat to maintain temperature of fluids in the Promass sensors of the M, E, A, H, I, S and P design:

- Chocolate, condensed milk, liquid sugar
- Oils, fats
- Lacquers
- Pharmaca, catalysts, inhibitors
- Suspensions

4.1.2 Function and system design

Design	■ Promass M, I: The heating jacket consists of two half-shells. ■ Promass A: The heating jacket consists of a heating plate. ■ Promass H, E, S, P: The heating jacket consists of two heating plate.

4.1.3 Operating conditions

Installation instructions	Installation position arbitrary (horizontal or vertically) restrictions and further references→ Page 7

4.1.4 Operating conditions: environment

Ambient temperature Transmitter or connection housing	■ All versions: max. +60°C (+140 °F) Detailed description → Page 7

4.1.5 Operating conditions: Process

Heating medium temperature range	■ Heating jacket/ Promass A, H, P: max. +200 °C (+392 °F) ■ Heating jacket / Promass M, I, S: max. +150 °C (+302 °F) ■ Heating jacket / Promass E: max. +125 °C (+257 °F)
Pressure rating of heating system	■ Heating jackets for all sensors: 25 bar (363 PSI)

Flow rate

DN	Flow rate* in heating jacket in [kg/h]				
	A	H, S, P	E	I	M
1	400	–	–	–	–
2	450	–	–	–	–
4	500	–	–	–	–
8	–	1600	400	700	350
15	–	1560	440	700	350
25	–	1520	500	650	350
40	–	1410	610	560	670
50	–	1200	850	450	1000
80	–	–	–	–	1500
* differencial pressure= 1bar					

Heat transfer coefficient

DN	Heat transfer coefficient* α in °C/h				
	A	H, S, P	E	I	M
1	150	–	–	–	–
2	120	–	–	–	–
4	80	–	–	–	–
8	–	210	250	65	220
15	–	205	235	65	220
25	–	200	220	60	200
40	–	180	180	50	165
50	–	160	100	40	110
80	–	–	–	–	25
* uninsulated					

4.1.6 Mechanical construction

Design, dimensions	→ Page 13 ff.
Weight	→ Page 13 ff.
Materials	Heating jackets: 1.4571 / 316 Ti
Material load diagrams	Heating jackets Materials: 1.4571 / 316 Ti

Caution!
The following material load diagrams (reference curves) are referring to a temperature range of –50 to +350 °C (–58 to +662 °F) But the maximal permissible fluid temperature always depends on sensor.

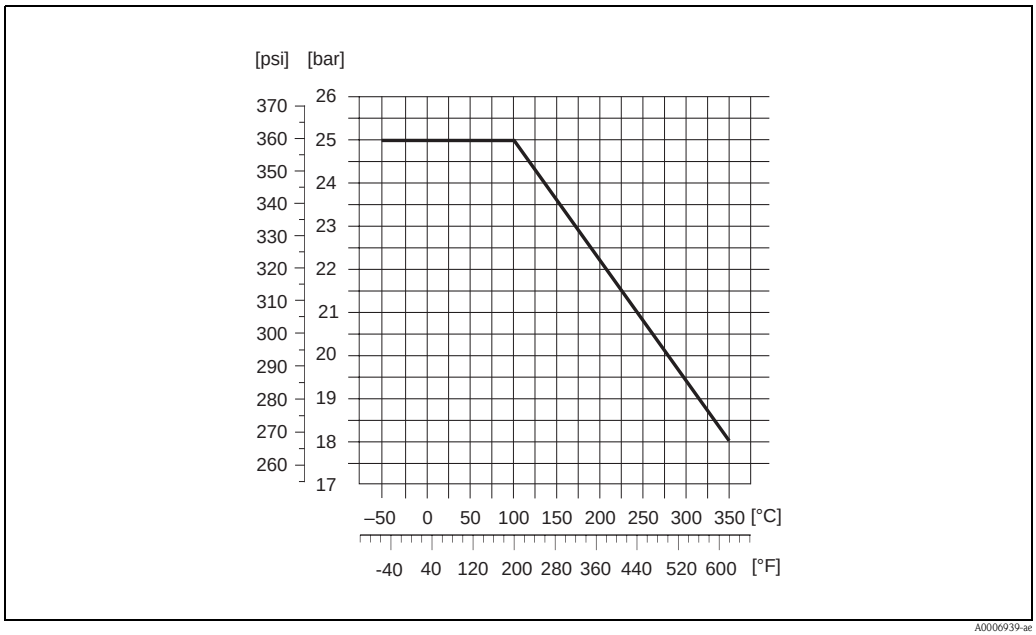


Fig. 2: Material load through the heating medium (pressure-temperature diagram)

4.1.7 Certificates and approvals

Pressure device approval	The devices correspond to article 3 (3) of the EEC guideline 97/23/BG (Pressure Equipment Directive) and are laid out and manufactured after good engineer practice.

4.2 Dimensions of heating jacket (SI Units)

US Units → Page 18 ff.

4.2.1 Promass A

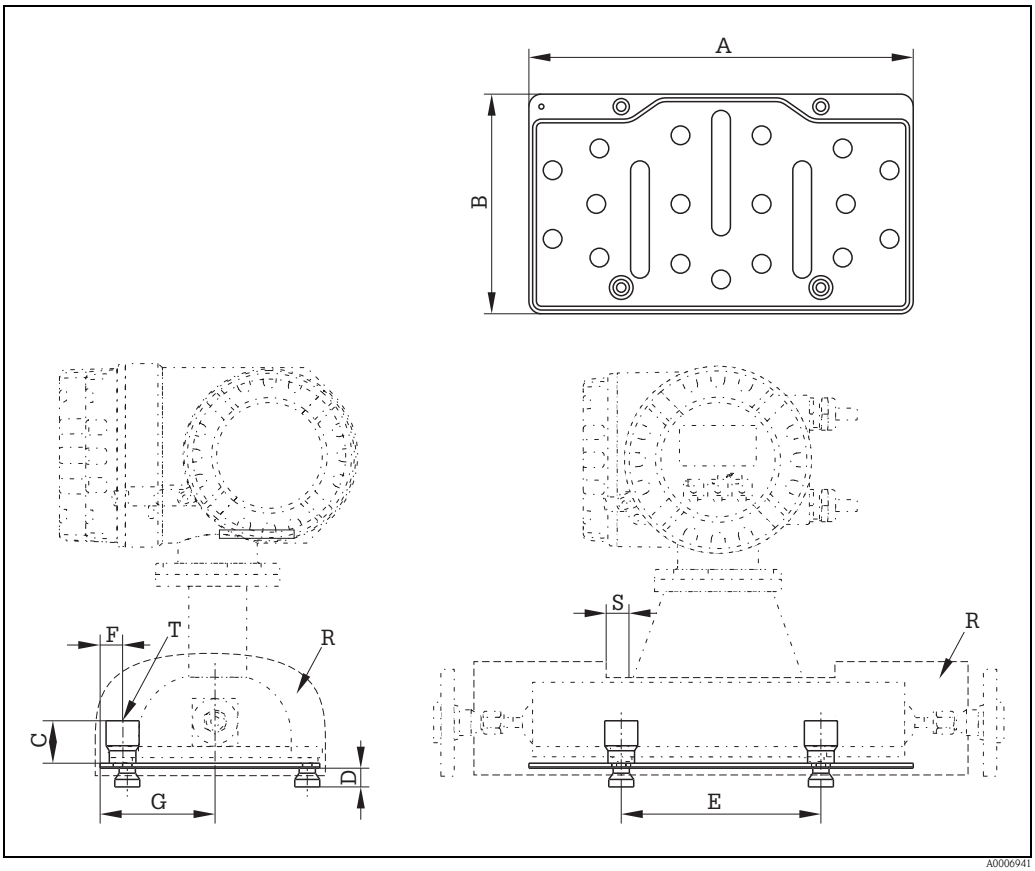


Abb. 3: Heating jacket, Promass A

R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 20 mm
T Process connection of the heating jacket acc. to tabele

DN	A	B	C	D	E	F	G	Weight [kg]	Volume [liter]
1	245	176	34	15	210	18	93.5	1.5	0.1
2	308	176	34	15	265	18	93.5	2.0	0.1
4	435	210	34	15	391	20	112.5	3.0	0.2
Dimensions in [mm]									

4.2.2 Promass E, H, S, P

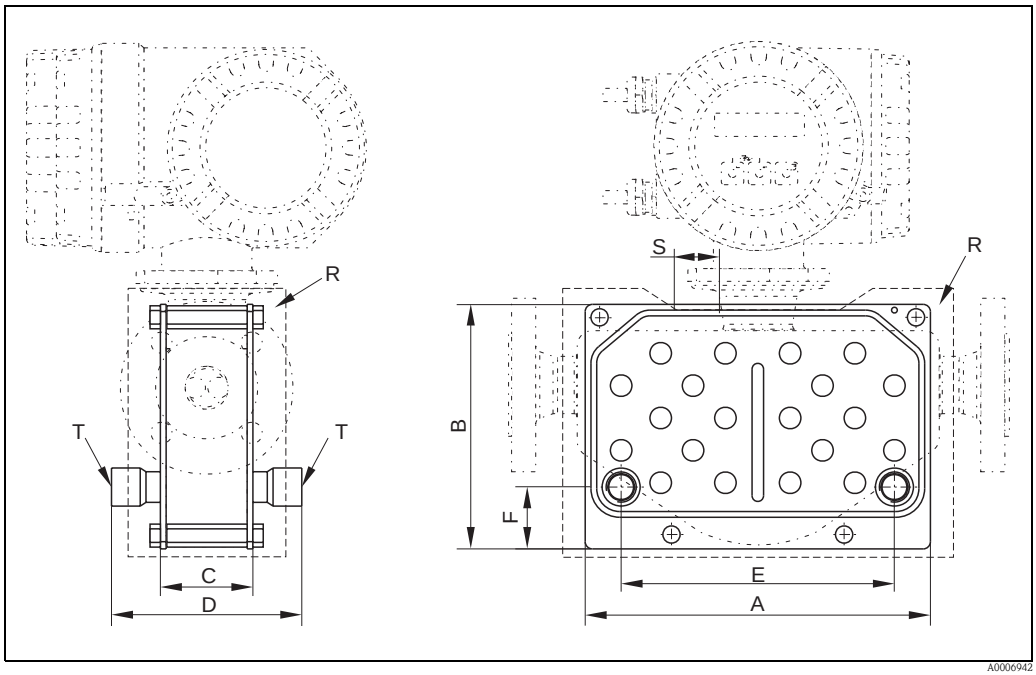


Abb. 4: Heating jacket Promass E, H, S, P

R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 20 mm
T Process connection of the heating jacket acc. to tabele

Promass E

DN	A	B	C	D	E	F	Weight[1)] [kg]	Volume[1)] [liter]
8	146	150	62	130	100	39	0.6	0.05
15	189	160	62	130	140	42.5	1	0.05
25	240	170	62	130	190	43	1.3	0.1
40	336	190	76	144	282	45	2	0.15
50	430	255	96	168	368.5	52	3.5	0.2
Dimensions in [mm]; [1)] per Jacket								

Promass H, S, P

DN	A	B	C	D	E	F	Weight[1)] [kg]	Volume[1)] [liter]
8	189	160	92	160	140	42.5	1	0.05
15	320	170	92	160	268	43	1.7	0.1
25	450	190	92	160	396	45	2.7	0.15
40	640	255	132	200	584	49	5	0.3
50	900	340	167	239	836.5	52	10	0.6
Dimensions in [mm]; [1)] per Jacket								

4.2.3 Promass M, I

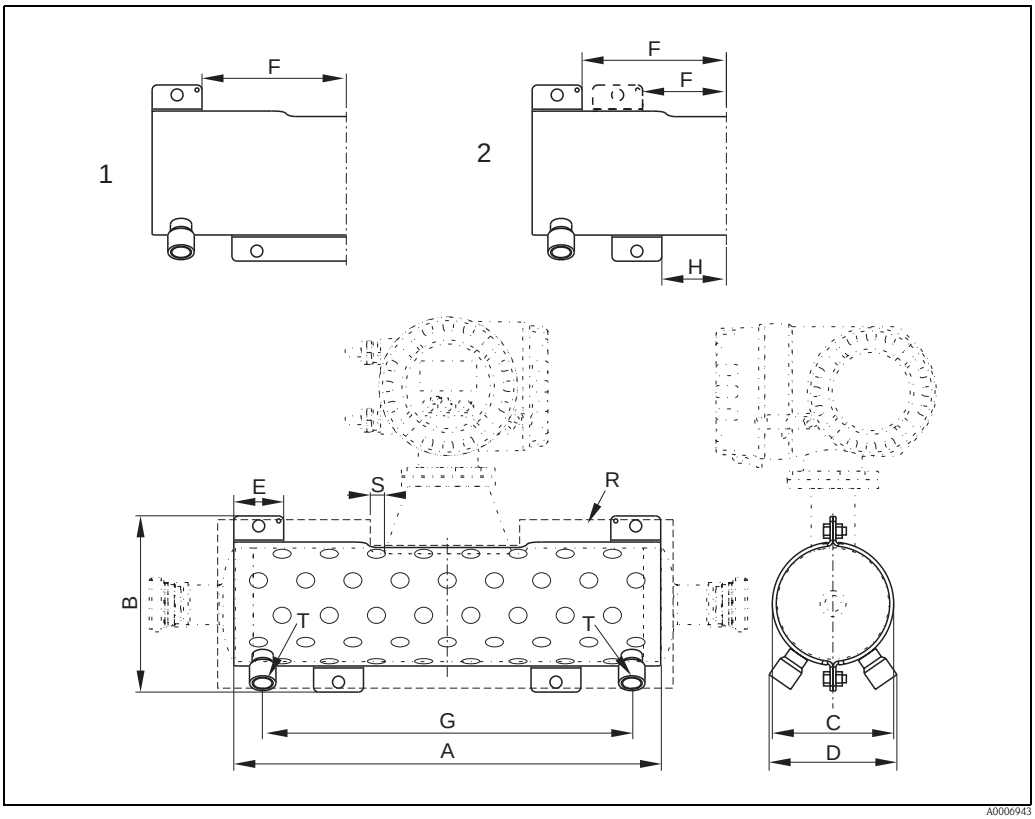


Abb. 5: Heating jacket Promass M, I

1 Promass M: DN 8
2 Promass M: DN 15, 25, 40, 50, 80
Promass I: DN 8, 15, 15 FB, 25, 25 FB, 40, 40 FB, 50
R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 20 mm
T Process connection of the heating jacket acc. to tabele

Promass M

DN	A	B	C	D	E	F	G	H	Weight[1)] [kg]	Volume[1)] [liter]
8	255	121.5	79	130	40	87.5	200	–	1	0.05
15	285	134.5	82	130	40	102.5	230	40	1	0.05
25	310	141.5	89	134	40	115	255	50	1.2	0.05
40	410	156.5	107.5	138	50	155	354	80	2	0.1
50	542	169.5	125	152	50	221	480	115	3	0.2
80	642	214	161	138	50	221	580	140	4.7	0.3
Dimensions in [mm]; [1)] per Jacket										

Promass I

DN	A	B	C	D	E	F	G	H	Weight[1)] [kg]	Volume[1)] [liter]
8	290	170.5	125	132	40	1.7	230	30	1.5	0.1
15	290	170.5	125	132	40	1.7	230	30	1.5	0.1
15 FB	428	176.5	125	132	50	2.5	370	74	2.5	0.1
25	428	176.5	125	132	50	2.5	370	74	2.5	0.1
25 FB	530	202	151	136	50	3.8	470	120	3.7	0.15
40	530	202	151	136	50	3.8	470	120	3.7	0.3
40 FB	645	232	180	132	50	5.5	580	182.5	5.3	0.4
50	645	232	180	132	50	5.5	580	182.5	5.3	0.4
Dimensions in [mm]; FB = full bore version; [1)] per Jacket										

4.2.4 NPT Adapter

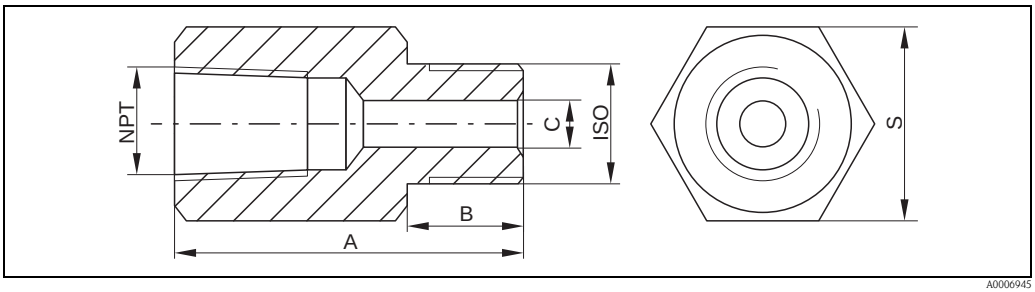


Abb. 6: Dimensions of Adapter NPT inner thread on conical ISO external thread

NPT	ISO[2)]	S	A[1)]	B[1)]	C[1)]
½	G ½	1 1/16 AF (SW 27)	49.3	19.1	11.9
¾	G ¾	1 5/16 AF (SW 33)	51.3	19.1	15.7

[1)] Dimensions in [mm]
[2)] DIN EN ISO 228

4.2.5 Flange Adapter

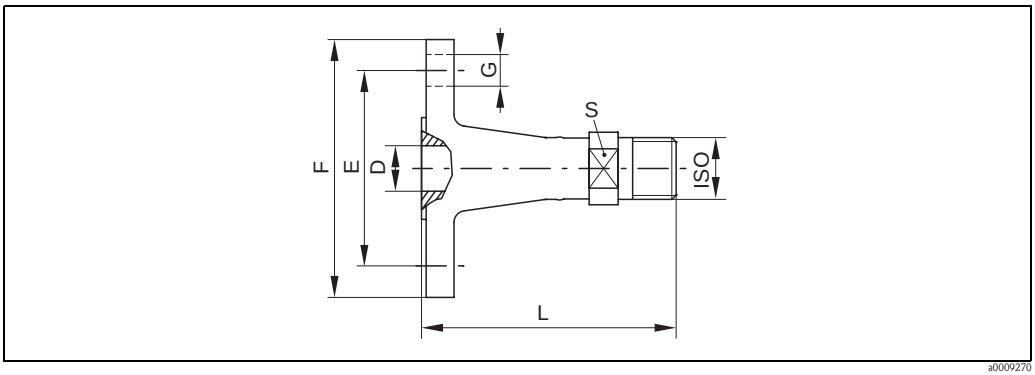


Abb. 7: Dimensions of Adapter for Flanges

Flange according to ASME B16.5: 1.4404/316L/316							
Pressure stage	**ISO[2)]**	**D[1)]**	**E[1)]**	**F[1)]**	**G[1)]**	**L[1)]**	**S**
Cl 150	G ½	15.7	60.5	88.9	4 × Ø15.7	87.8	SW 21 (7/8 AF)
	G ¾	15.7	60.5	88.9	4 × Ø15.7	87.8	
Cl 300	G ½	15.7	66.5	95.2	4 × Ø15.7	92.3	
	G ¾	15.7	66.5	95.2	4 × Ø15.7	92.3	

Flange EN 1092-1 (DIN 2501) / PN 40: 1.4404/316L/316							
Pressure stage	**ISO[2)]**	**D[1)]**	**E[1)]**	**F[1)]**	**G[1)]**	**L[1)]**	**S**
PN 40	G ½	17.3	65.0	95	4 × Ø14	78.0	SW 21 (7/8 AF)
	G ¾	17.3	65.0	95	4 × Ø14	78.0	

[1)] Dimensions in [mm]
[2)] DIN EN ISO 228

4.3 Dimensions of heating jacket (US Units)

SI Units → Page 13 ff.

4.3.1 Promass A

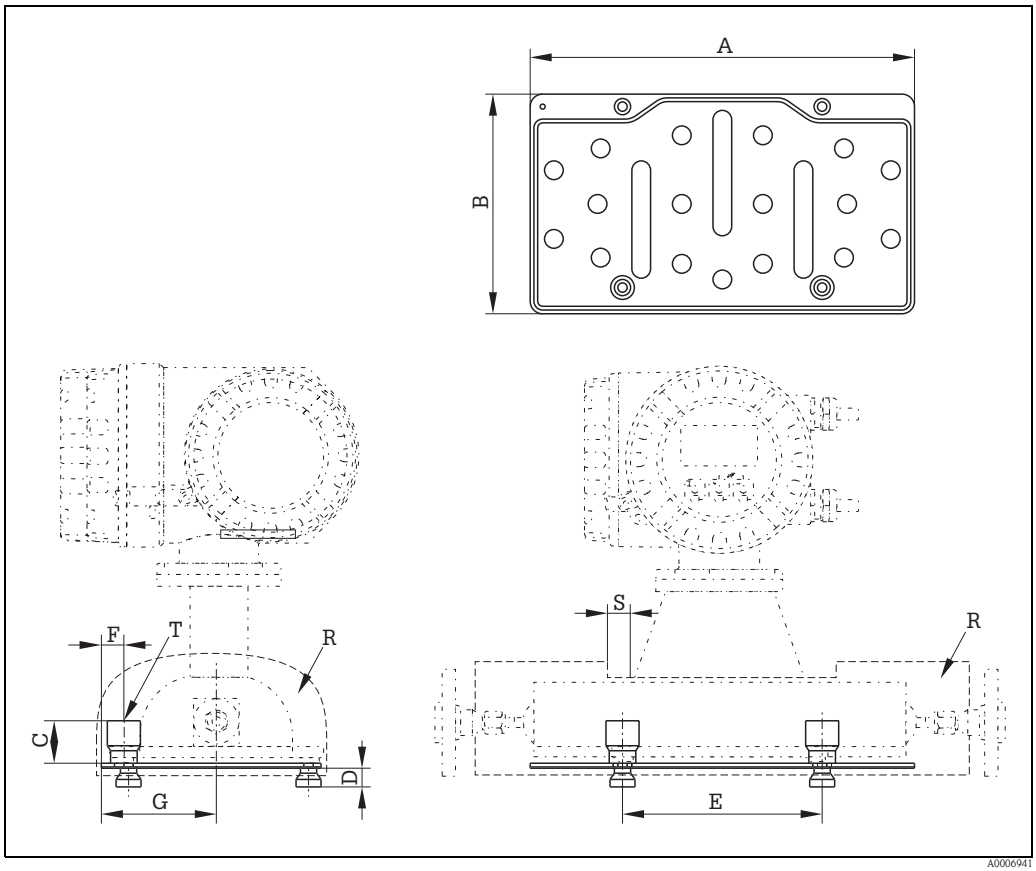


Abb. 8: Heating jacket Promass A

R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 0.79"
T Process connection of the heating jacket acc. to tabele

DN	A	B	C	D	E	F	G	Weight [lbs]	Volume [US gal]
1/24	9.65	6.93	1.34	0.59	8.27	0.71	3.68	3.3	0.03
1/12	12.13	6.93	1.34	0.59	10.43	0.71	3.68	4.4	0.03
1/8	17.13	8.27	1.34	0.59	15.39	0.79	4.43	6.6	0.05
Dimensions in [inch]									

4.3.2 Promass E, H, S, P

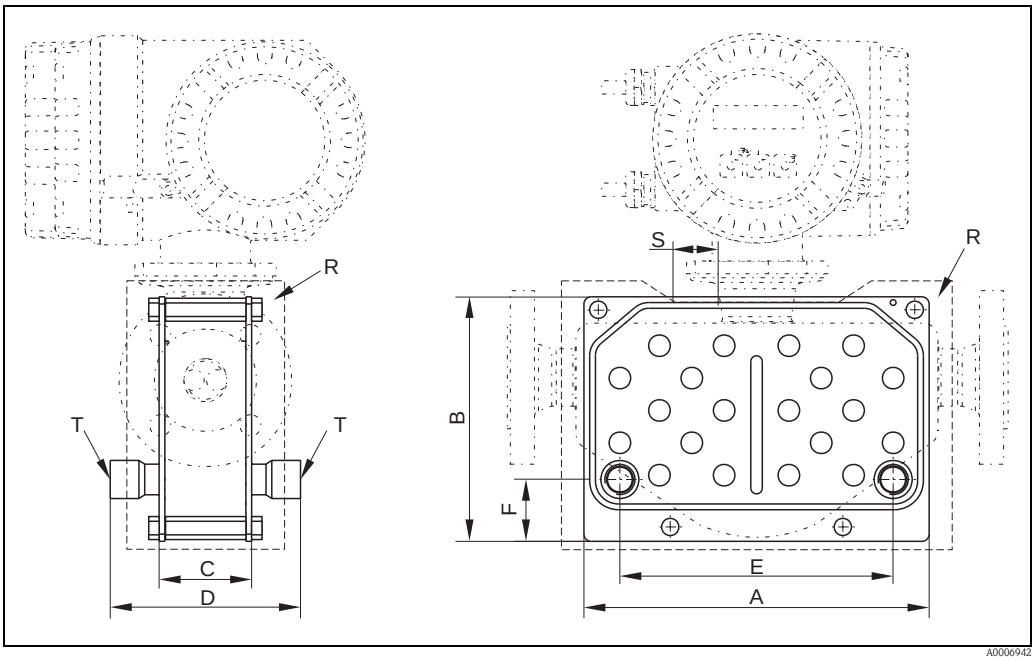


Abb. 9: Heating jacket Promass E, H, S, P

R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 0.79"
T Process connection of the heating jacket acc. to tabele

Promass E

DN	A	B	C	D	E	F	Weight [1] [lbs]	Volume [1] [US gal]
3/8	5.75	5.91	2.44	5.12	3.94	1.54	1.32	0.01
1/2	7.44	6.30	2.44	5.12	5.51	1.67	2.21	0.01
1	9.45	6.69	2.44	5.12	7.48	1.69	2.87	0.03
1½	13.23	7.48	2.99	5.67	11.10	1.77	4.41	0.04
2	16.93	10.04	3.78	6.61	14.51	2.05	7.72	0.05
Dimensions in [inch]; [1] per Jacket								

Promass H, S, P

DN	A	B	C	D	E	F	Weight [1] [lbs]	Volume [1] [US gal]
3/8	7.44	6.30	3.62	6.30	5.51	1.67	2.21	0.01
1/2	12.60	6.69	3.62	6.30	10.55	1.69	3.75	0.03
1	17.72	7.48	3.62	6.30	15.59	1.77	5.95	0.04
1½	25.20	10.04	5.20	7.87	22.99	1.93	11.03	0.08
2	35.43	13.39	6.57	9.41	32.93	2.05	22.05	0.16
Dimensions in [inch]; [1] per Jacket								

4.3.3 Promass M, I

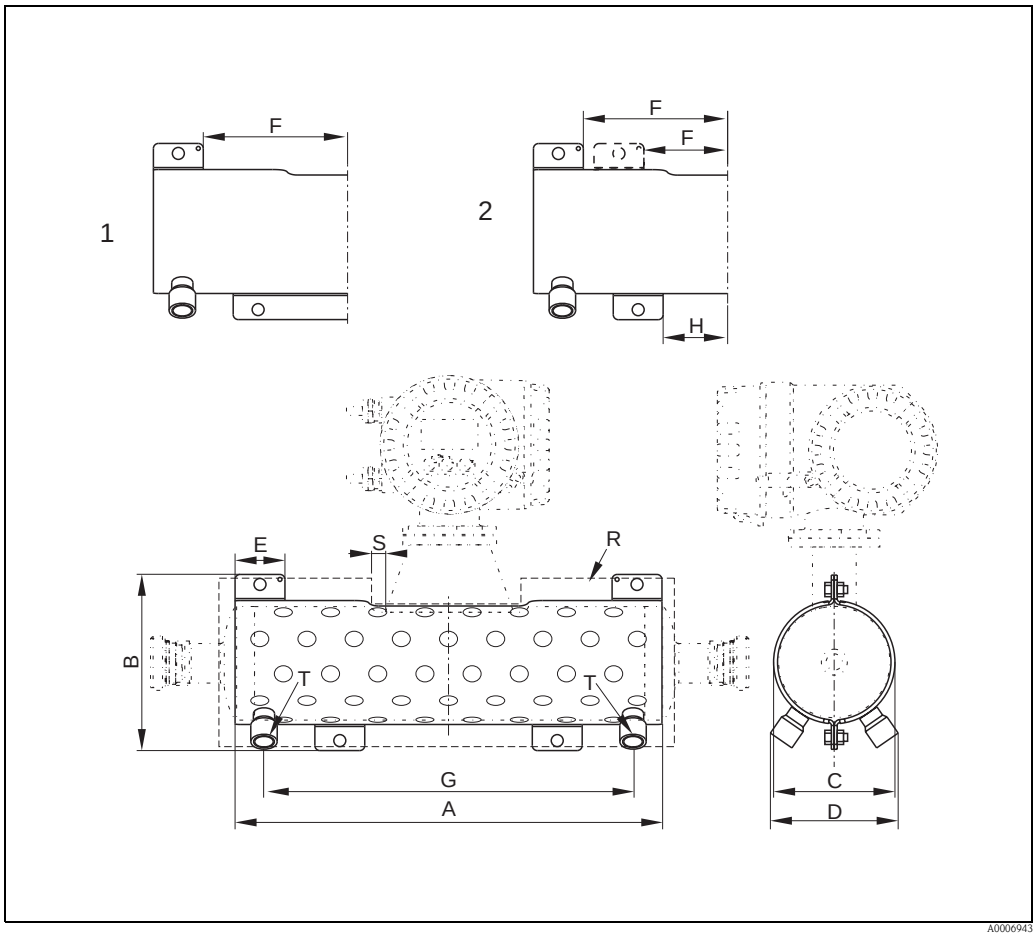


Abb. 10: Heating jacket Promass M, I

1 Promass M: DN 3/8"
2 Promass M: DN 1/2", 1", 1½", 2", 3"
Promass I: DN 3/8", 1/2", 1/2" FB, 1", 1" FB, 1½", 1½"FB, 2"
R Insulation, customer supply (e.g. mineral wool)
S Safety distance: min. 0.79"
T Process connection of the heating jacket acc. to tabele

Promass M

DN	A	B	C	D	E	F	G	H	Weight [1] [lbs]	Volume [1] [US gal]
3/8	10.04	4.78	3.11	5.12	1.57	3.44	7.87	–	2.21	0.13
1/2	11.22	5.30	3.23	5.12	1.57	4.04	9.06	1.57	2.21	0.13
1	12.20	5.57	3.50	5.28	1.57	4.53	10.04	1.97	2.65	0.13
1½	16.14	6.16	4.23	5.43	1.97	6.10	13.94	3.15	4.41	0.03
2	21.34	6.67	4.92	5.98	1.97	8.70	18.90	4.53	6.62	0.05
3	25.28	8.43	6.34	5.43	1.97	8.70	22.83	5.51	10.36	0.08
Dimensions in [inch]; [1] per Jacket										

Promass I

DN	A	B	C	D	E	F	G	H	Weight [1] [lbs]	Volume [1] [US gal]
3/8	11.42	6.71	4.92	5.20	1.57	0.07	9.06	1.18	3.31	0.03
1/2	11.42	6.71	4.92	5.20	1.57	0.07	9.06	1.18	3.31	0.03
1/2 FB	16.85	6.95	4.92	5.20	1.97	0.10	14.57	2.91	5.51	0.03
1	16.85	6.95	4.92	5.20	1.97	0.10	14.57	2.91	5.51	0.03
1 FB	20.87	7.95	5.94	5.35	1.97	0.15	18.50	4.72	8.16	0.04
1½	20.87	7.95	5.94	5.35	1.97	0.15	18.50	4.72	8.16	0.08
1½ FB	25.39	9.13	7.09	5.20	1.97	0.22	22.83	7.19	11.69	0.11
2	25.39	9.13	7.09	5.20	1.97	0.22	22.83	7.19	11.69	0.11
Dimensions in [inch]; FB = full bore version; [1] per Jacket										

4.3.4 NPT Adapter

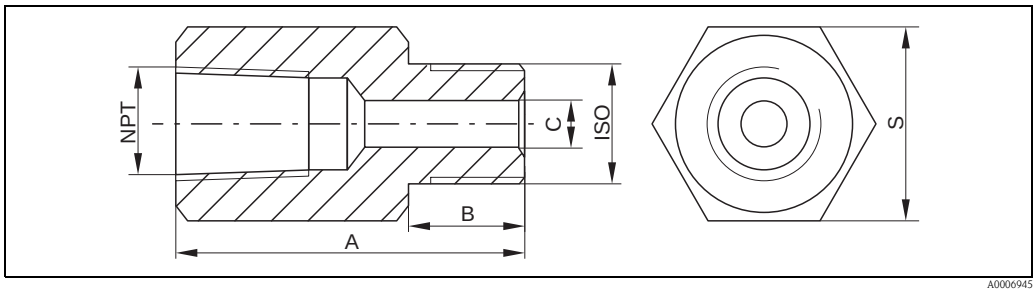


Abb. 11: Dimensions of Adapter NPT inner thread on conical ISO external thread

NPT	ISO[2)]	S	A[1)]	B[1)]	C[1)]
½	G ½	1 1/16 AF	1.94	0.75	0.47
¾	G ¾	1 5/16 AF	2.02	0.75	0.62

1) Dimensions in [inch]
2) DIN EN ISO 228

4.3.5 Flange Adapter

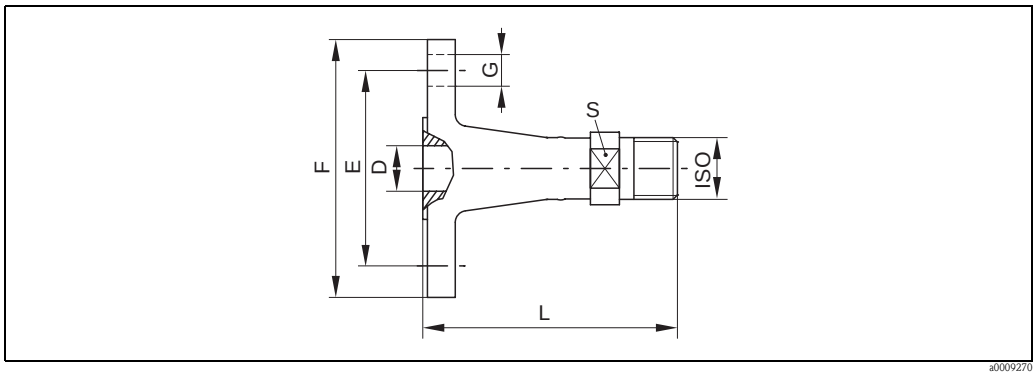


Abb. 12: Dimensions of Adapter for Flanges

Flange according to ASME B16.5: 1.4404/316L/316							
Pressure stage	**ISO[2)]**	**D[1)]**	**E[1)]**	**F[1)]**	**G[1)]**	**L[1)]**	**S**
Cl 150	G ½	0.62	2.38	3.5	4 × Ø0.62	3.46	7/8 AF
	G ¾	0.62	2.38	3.5	4 × Ø0.62	3.46	
Cl 300	G ½	0.62	2.62	3.75	4 × Ø0.62	3.63	
	G ¾	0.62	2.62	3.75	4 × Ø0.62	3.63	

Flange EN 1092-1 (DIN 2501) / PN 40: 1.4404/316L/316							
Pressure stage	**ISO[2)]**	**D[1)]**	**E[1)]**	**F[1)]**	**G[1)]**	**L[1)]**	**S**
PN 40	G ½	0.68	2.56	3.74	4 × Ø0.55	3.07	7/8 AF
	G ¾	0.68	2.56	3.74	4 × Ø0.55	3.07	

1) Dimensions in [inch]
2) DIN EN ISO 228

Endress+Hauser

People for Process Automation

Declaration of Hazardous Material and De-Contamination

Erklärung zur Kontamination und Reinigung

RA No. ☐☐☐☐☐☐☐☐

Please reference the Return Authorization Number (RA#), obtained from Endress+Hauser, on all paperwork and mark the RA# clearly on the outside of the box. If this procedure is not followed, it may result in the refusal of the package at our facility.

Bitte geben Sie die von E+H mitgeteilte Rücklieferungsnummer (RA#) auf allen Lieferpapieren an und vermerken Sie diese auch außen auf der Verpackung. Nichtbeachtung dieser Anweisung führt zur Ablehnung ihrer Lieferung.

Because of legal regulations and for the safety of our employees and operating equipment, we need the "Declaration of Hazardous Material and De-Contamination", with your signature, before your order can be handled. Please make absolutely sure to attach it to the outside of the packaging.

Aufgrund der gesetzlichen Vorschriften und zum Schutz unserer Mitarbeiter und Betriebseinrichtungen, benötigen wir die unterschriebene "Erklärung zur Kontamination und Reinigung", bevor Ihr Auftrag bearbeitet werden kann. Bringen Sie diese unbedingt außen an der Verpackung an.

Type of instrument / sensor
Geräte-/Sensortyp _____

Serial number
Seriennummer _____

☐ **Used as SIL device in a Safety Instrumented System /** *Einsatz als SIL Gerät in Schutzeinrichtungen*

Process data/ *Prozessdaten*

Temperature / *Temperatur*_____ [°F] _____ [°C]
Pressure / *Druck* _____ [psi] _____ [Pa]
Conductivity / *Leitfähigkeit* _____ [µS/cm]
Viscosity / *Viskosität* _____ [cp] _____ [mm²/s]

Medium and warnings
Warnhinweise zum Medium

	Medium /concentration *Medium /Konzentration*	Identification CAS No.	flammable *entzündlich*	toxic *giftig*	corrosive *ätzend*	harmful/ irritant *gesundheits-schädlich/ reizend*	other * *sonstiges**	harmless *unbedenklich*
Process medium / *Medium im Prozess*								
Medium for process cleaning / *Medium zur Prozessreinigung*								
Returned part cleaned with / *Medium zur Endreinigung*								

* explosive; oxidising; dangerous for the environment; biological risk; radioactive
* *explosiv; brandfördernd; umweltgefährlich; biogefährlich; radioaktiv*

Please tick should one of the above be applicable, include safety data sheet and, if necessary, special handling instructions.
Zutreffendes ankreuzen; trifft einer der Warnhinweise zu, Sicherheitsdatenblatt und ggf. spezielle Handhabungsvorschriften beilegen.

Description of failure / *Fehlerbeschreibung* _____

_____

_____

Company data / *Angaben zum Absender*

Company / *Firma* _____

_____

Address / *Adresse*

_____

_____

Phone number of contact person / *Telefon-Nr. Ansprechpartner:*

_____

Fax / E-Mail _____

Your order No. / *Ihre Auftragsnr.* _____

"We hereby certify that this declaration is filled out truthfully and completely to the best of our knowledge.We further certify that the returned parts have been carefully cleaned. To the best of our knowledge they are free of any residues in dangerous quantities."

"Wir bestätigen, die vorliegende Erklärung nach unserem besten Wissen wahrheitsgetreu und vollständig ausgefüllt zu haben. Wir bestätigen weiter, dass die zurückgesandten Teile sorgfältig gereinigt wurden und nach unserem besten Wissen frei von Rückständen in gefahrbringender Menge sind."

_____ (place, date / *Ort, Datum*)

_____ Name, dept./*Abt.* (please print / *bitte Druckschrift*)

_____ Signature / *Unterschrift*

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