PROTECTION TUBE TO DIN 43772

for thermometers

Description

Protection tubes in conductive materials are used to separate the thermometer from the medium. A protection tube is particulary recommended for service with pressurized media. In addition, protection tubes protect the thermometers from aggressive media and facilitate replacement of thermometers.

An extensive range of standard versions provides for service in variety of applications. In addition, protection tubes are available in special materials and in customised dimensions.

Features

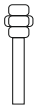
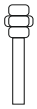
- ○ Screw fitted and welded versions
- ○ For aggressive media
- ○ Various standard materials:
  copper alloy, stell and stianless steel
- ○ Large selection of standard versions available
- ○ Special materials and dimensions as required

Applications

Chemical industry
Petrochemical industry
Process engineering
Food industry

Technical details:

Stainless steel protection tubes for screw and weld fitting

Types	B 976			E 978			008			010			S977			009		
Symbol																		
	some parts			one part			some parts			one part			one part			one part		
Thermometer conn. D2	G½A			G½A			G½A		G¾A	G½A		G¾A	G½A			G½A		G¾A
for stem diameter Ø	8	10	12	8	10	12	8	10	12	8	10	12	8	10	12	8	10	12
Process connection d1	G½A		G¾A	G½A		G¾A	G½A		G¾A	G½A			Ø30			Ø24		Ø30
Protect. tube length l2[1)]	82, 142, 182, 232 mm			87, 147, 187, 237 mm			71, 108, 168, 208, 258 mm			76, 113, 173, 213, 263 mm			73, 133, 173, 223 mm			63, 100, 160, 200, 250 mm		
Material	Stainless steel 1.4571																	
Application [2)]																		
Tmax	400°C			400°C			400°C			400°C			400°C			400°C		
Pmax (static)	40 bar			150 bar			40 bar			150 bar			150 bar			150 bar		

Protection tube for screw and weld fitting

Types	B 976			E 978			008			010			S977			009		
Symbol																		
	some parts			one part			some parts			one part			one part			one part		
Thermometer conn. D2	G½A			G½A			G½A		G¾A	G½A		G¾A	G½A			G½A		G¾A
for stem diameter Ø	8	10	12	8	10	12	8	10	12	8	10	12	8	10	12	8	10	12
Process connection d1	G½A		G¾A	G½A		G¾A	G½A		G¾A	G½A			Ø30			Ø24		Ø30
Protect. tube length l2[1)]	82, 142, 182, 232 mm			87, 147, 187, 237 mm			71, 108, 168, 208, 258 mm			76, 113, 173, 213, 263 mm			73, 133, 173, 223 mm			63, 100, 160, 200, 250 mm		
Material	Steel St.35																	
Application [2)]																		
Tmax	300°C			300°C			300°C			300°C			300°C			300°C		
Pmax (static)	40 bar			160 bar			40 bar			160 bar			160 bar			160 bar		

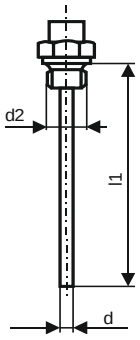
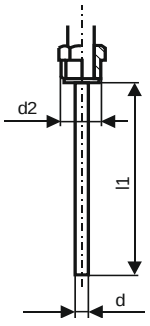
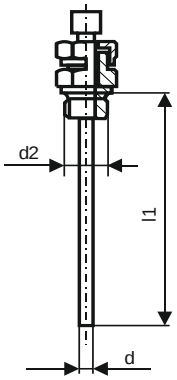
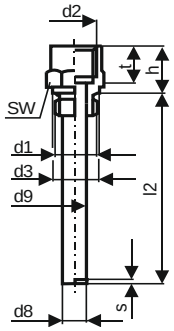
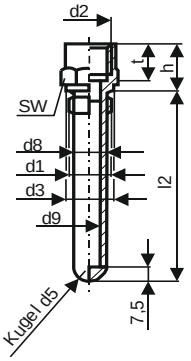
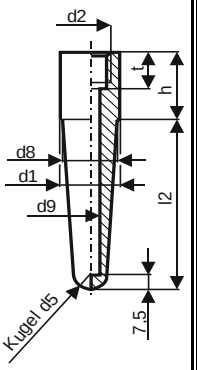
Screw fitted protection tube in copper alloy, multiple part

Types	B 976			008		
Symbol						
Thermometer conn. D2	G½A	G½A	G½A	G½A	G½A	G¾A
for stem diameter Ø	8	10	12	8	10	12
Process connection d1	G½A	G½A	G¾A	G½A	G½A	G¾A
Protection tube length l2[1)]	82, 142, 182, 232 mm			71, 108, 168, 208, 258 mm		
Material	Copper alloy					
Application [2)]						
Tmax	160°C					
Pmax (static)	6 bar					

1) See tables on page 3 for the stem length of the corresponding thermometer

2) Dependend on medium, medium pressure, temperature, flow velocity, installation length and materials

Assignment of stem length l1 to installation l2 of the protection tube (form B according to DIN 43772), Female - Mate thread

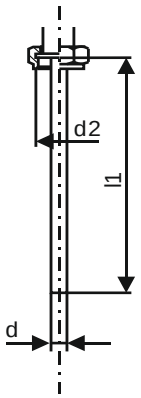
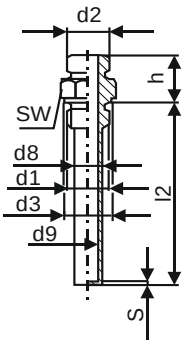
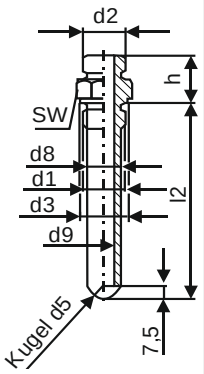
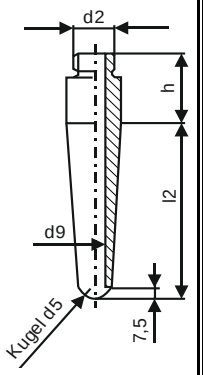
Thermometer connection			Protection tube		
fixed	rotating	clamping nuts	B 976	E 978	S 977
			Form BD	Form BE	Form BS
					

Stem length l1 (mm)			Installation length l2 (mm)		
63	-	63	-	-	-
100	80	100	82	87	73
160	140	160	142	147	133
200	180	200	182	187	173
250	230	250	232	237	223

Dimensions (mm) see table "technical details" for dimension l2

Type	Dimensions (mm)										
(Material)	Process connetion d1 Ø	Thermometer connection d2 Ø	for stem diameter d Ø	d3 Ø	d5 Ø	d8 Ø	d9 Ø	s	h	t	SW
B 796 Steel St35	G½A	G½A	8	26	17	10	8,2	1	25	19	27
	G½A		10	26	17	13	11	1	25	19	27
	G¾A		12	32	19	16	13	2	29	19	32
E 976 Steel St35	G½A	G½A	8	26	17	17	8,2	-	25	19	27
	G½A		10	26	17	17	10,2	-	25	19	27
	G¾A		12	32	19	22	12,2	-	29	19	32
S 977 Steel St35	30	G½A	8	-	19	25	8,2	-	39	19	-
	30		10	-	19	25	10,2	-	39	19	-
	30		12	-	19	25	12,2	-	39	19	-
B 976 Brass	G½A	G½A	8	26	17	10	8,5	1	25	19	27
	G½A		10	26	17	13	11	1	25	19	27
	G¾A		12	32	19	16	13	2	29	19	32
B 976 1.4571	G½A	G½A	8	26	17	10	8,2	1	25	19	27
	G½A		10	26	17	13	10,2	1	25	19	27
	G¾A		12	32	19	16	12,2	2	29	19	32
E 978 1.4571	G½A	G½A	8	26	17	17	8,2	-	25	19	27
	G½A		10	26	17	17	10,2	-	25	19	27
	G¾A		12	32	19	22	12,2	-	29	19	32
S 977 1.4571	30	G½A	8	-	19	25	8,2	-	39	19	-
	30		10	-	19	25	10,2	-	39	19	-
	30		12	-	19	25	12,2	-	39	19	-

Assignment of stem length l1 to installation length l2 of the protection tube
(Form C according to DIN 43772), 2 x male thread

Thermometer connection	Protection tube		
Überwurfmutter	**008**	**010**	**009**
			

Stem length l1	Installation length l2		
89	71	76	63
126	108	113	100
186	168	173	160
226	208	213	200
276	258	263	250

Dimensions (mm) see table "technical details" for dimension l2

Types	Dimensions (mm)										
(Material)	**Process connetion d1 Ø**	**Thermometer connection d2 Ø**	**for stem diameter d Ø**	**d3 Ø**	**d5 Ø**	**d8 Ø**	**d9 Ø**	**s**	**h**	**t**	**SW**
008 Steel St35	G½A	G½A	8	26	19	10	8,2	1	25	-	27
	G½A	G½A	10	26	17	13	11	1	25	-	27
	G½A	G¾A	12	26	17	16	13	2	25	-	27
010 Steel St35	G½A	G½A	8	26	17	17	8,2	-	25	-	27
	G½A	G½A	10	26	17	17	10,2	-	25	-	27
	G¾A	G¾A	12	32	19	22	12,2	-	29	-	32
009 Steel St35	24	G½A	8	-	17	-	8,2	-	39	-	-
	24	G½A	10	-	17	-	10,2	-	39	-	-
	30	G¾A	12	-	19	-	12,2	-	45	-	-
008 Brass	G½A	G½A	8	26	17	10	8,5	1	25	-	27
	G½A	G½A	10	26	17	13	11	1	25	-	27
	G¾A	G¾A	12	32	19	16	13	2	29	-	32
008 1.4571	G½A	G½A	8	26	17	10	8,2	1	25	-	27
	G½A	G½A	10	26	17	13	10,2	1	25	-	27
	G¾A	G¾A	12	32	19	16	12,2	2	29	-	32
010 1.4571	G½A	G½A	8	26	17	17	8,2	-	25	-	27
	G½A	G½A	10	26	17	17	10,2	-	25	-	27
	G½A	G¾A	12	26	19	17	12,2	-	25	-	27
009 1.4571	24	G½A	8	-	17	-	8,2	-	39	-	-
	24	G½A	10	-	17	-	10,2	-	39	-	-
	30	G¾A	12	-	19	-	12,2	-	45	-	-