

## Thermowells according DIN 43772

#### **FEATURES**

- Sensor protection for reliable temperature measurement
- Female Instrument connection
- Wide selection of instrument connections
- Compatible to standard or customized stem dimensions
- Suits to a wide spectrum of process connections types

#### **DESCRIPTION**

- Power Generation
- Reactors
- Storage Tanks
- Cooling Towers
- Industrial equipment Manufacture
- Industrial Ovens
- HVAC/R
- Food and Beverage
- Pharmaceutical and Biotech

SPECIFICATION	IS CONTRACTOR OF THE CONTRACTO
Form:	2, 3, 2G, 3G, 2F, 3F, 4, 4F, 5, 6, 7, 8 or 9
Bore Diameter:	6, 7, 8 or 9 mm
Max. Length:	up to 1 m
Process Connection:	Threaded, Flanged or Weld-in
Instrument Connection:	Wide variation in dependence of Form see ordering code for further details
Material:	Brass A 182 F11 Chrome Moly (1.7335) A 182 F22 Chrome Moly (1.7380) Stainless steel 304 (1.4301) Stainless steel 304L (1.4306) Stainless steel 316L (1.4404) Stainless steel 316Ti (1.4571) 16 Mo3 (1.5415)



#### **KEY BENEFITS**

- Separation of temperature measuring device from medium
- Protection of thermometer from aggressive media
- · Easy replacement of thermometer

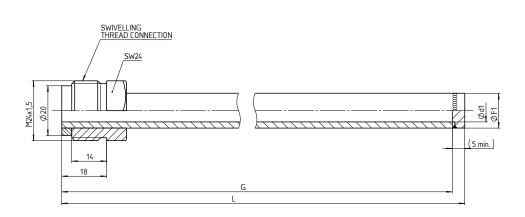


## Thermowells according DIN 43772 Form 2 and 3

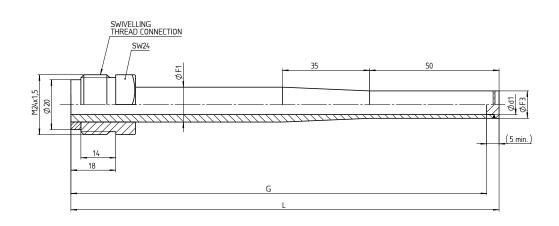
### **DIMENSIONS IN MM**

For reference only, consult Ashcroft for specific dimensional drawings

### FORM 2











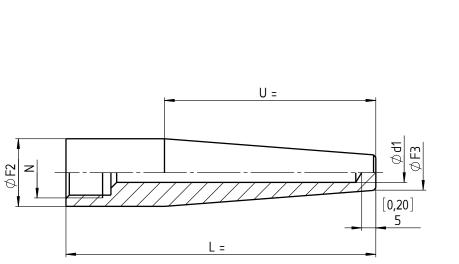


## Thermowells according DIN 43772 Form 4 and 2G

### **DIMENSIONS IN MM**

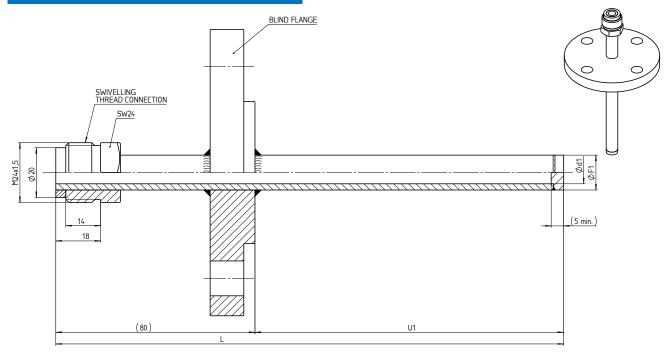
For reference only, consult Ashcroft for specific dimensional drawings

### FORM 4





### FORM 2F



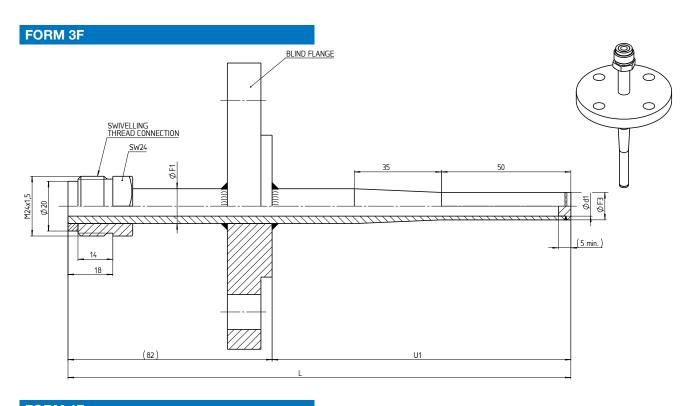


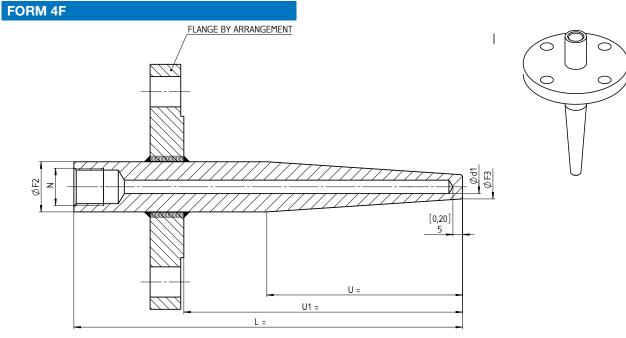


## Thermowells according DIN 43772 Form 3F and 4F

### **DIMENSIONS IN MM**

For reference only, consult Ashcroft for specific dimensional drawings







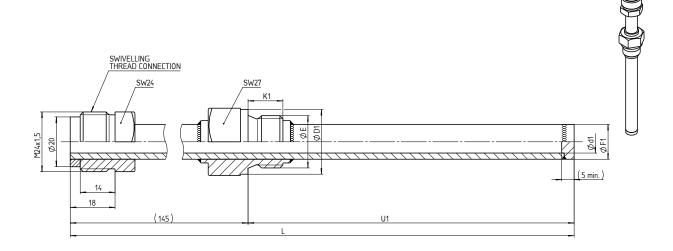


## Thermowells according DIN 43772 Form 3G and 2F

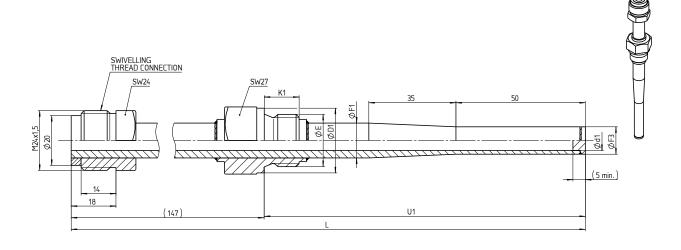
### **DIMENSIONS IN MM**

For reference only, consult Ashcroft for specific dimensional drawings

### FORM 2G



### FORM 3G





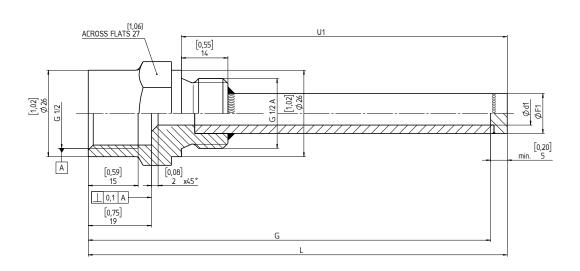


## Thermowells according DIN 43772 Form 5 and 6

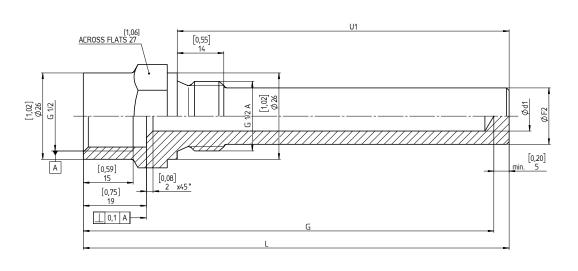
### **DIMENSIONS IN MM**

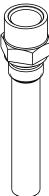
For reference only, consult Ashcroft for specific dimensional drawings

### FORM 5









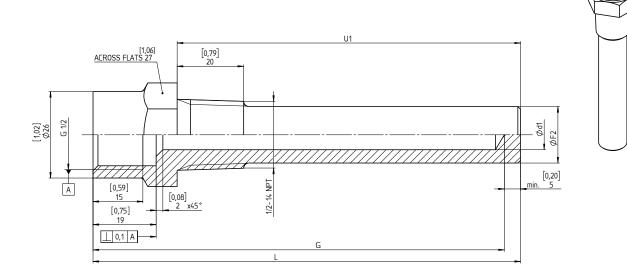


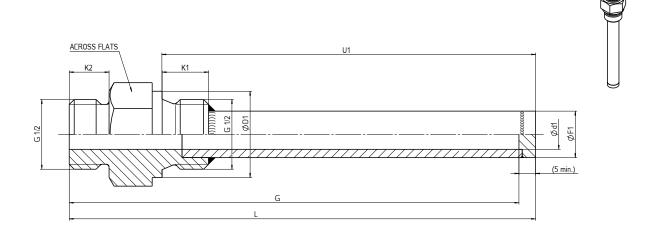
## Thermowells according DIN 43772 Form 7 and 8

### **DIMENSIONS IN MM**

For reference only, consult Ashcroft for specific dimensional drawings

### FORM 7





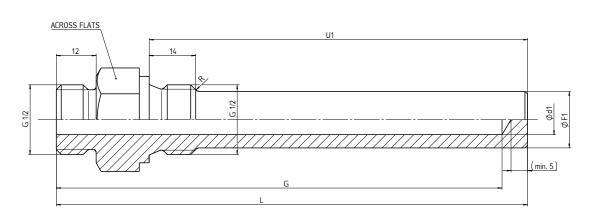




## Thermowells according DIN 43772 Form 9

### **DIMENSIONS IN MM**

For reference only, consult Ashcroft for specific dimensional drawings









### Thermowell according **DIN 43772 Form 2**

ORDER	NG CODE	EXAMPLE:	TWW-DIN	W2	N	012	14	S	395	Α	F1	хсз
Model												
	Weld-in thermowell according DIN	A3772										
Form	Weid-in thermowell according bill	43772										
W2	Form 2											
Process Con												
N	Plain											
Thermowell												
009	Ø 9 mm											
011	Ø 11 mm											
012	Ø 12 mm											
014	Ø 14 mm											
Instrument (	Connection											
14	M24x1,5											
Shank Type	•							J				
S	Straight											
Nominal Len									J			
305	305 mm											
395	395 mm											
545	545 mm											
40999	Nominal length in 1 mm steps											
<b>Bore Diamet</b>	er											
Α	7 mm											
0	9 mm											
Material											1	
F1	A 182 F11 Chrome Moly (1.7335)											
F2	A 182 F22 Chrome Moly (1.7380)											
S1	Stainless steel 304 (1.4301)											
S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											
Options (If c	hoosing an option(s) must include a "X"	)										_
Cleaning												
6B	M20 x 1.5											
6W	1/2" NPT 2											
Marking/T	agging											
NF	Tag number stamped on thermower	ell										
NH	Stainless steel tag wired											
NH1	Extra large stainless steel tag wired	d										
Testing/Ce	ertificates											
CD2	Certificate according to EN 10204	2.2										
C3	Material Traceability Report acc. to	EN 10204 3.1										
CD5	Certificate according to NACE for 0	Dilfields MR0175	/ISO 151	56-2009	and fo	r Rafiner	ies MR0	0103-20	10			
MQ	Positive material identification (PM	l) test										
W2	Dye penetration test											
HN	Hydrostatic test (internal) acc. Ash	croft standard										
W4	Hydrostatic test (internal) acc. cust	omer standard										
YQ	X-ray (bore concentricity)											





### Thermowell according **DIN 43772 Form 3**

ORDER	ING CODE	EXAMPLE:	TWW-DIN	W3	N	012	14	Н	367	N	S5	хсз
Model												
	Weld-in thermowell according DIN	1 43772										
Form	Treid in themselven deceraing bill	. 10172										
W3	Form 3											
Process Con												
N	Plain											
Thermowell						J						
012	Ø 12 mm											
014	Ø 14 mm											
Instrument (	Connection						,					
14	M24x1,5 Female											
<b>Shank Type</b>								_				
Н	Tapered											
Nominal Ler	ngth								,			
307	307 mm											
367	367 mm											
427	427 mm											
40999	Nominal length in 1 mm steps											
<b>Bore Diamet</b>	ter											
N	6 mm											
С	8 mm											
Material												
F1	A 182 F11 Chrome Moly (1.7335)											
F2	A 182 F22 Chrome Moly (1.7380)											
S1	Stainless steel 304 (1.4301)											
S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											
Options (If c	choosing an option(s) must include a "X	")										
Cleaning												
6B	Cleaned for gaseous Oxygen or o		ng agent	ts								
6W	Cleaned for oxidizing processes of	ther than Oxygen										
Marking/T												
NF	Tag number stamped on thermow	ell										
NH	Stainless steel tag wired											
NH1	Extra large stainless steel tag wire	:d										
Testing/Ce												
CD2	Certificate according to EN 10204											
C3	Material Traceability Report acc. t		<b>"</b>	E0 655		<b>5</b>		0400 0=	4.0			
CD5	Certificate according to NACE for		150 151	56-2009	and fo	r Rafinei	ries MR	U1U3-20	10			
MQ	Positive material identification (PN	(II) test										
W2	Dye penetration test											
HN	Hydrostatic test (internal) acc. Ash											
W4	Hydrostatic test (internal) acc. cus	stomer standard										
YQ	X-ray (bore concentricity)											





# Thermowell according DIN 43772 Form 4

ORDER	ING CODE	EXAMPLE:	TWW-DIN	W4	N	026	7	Н	410	275	N	S6	хсз
Model													
TWW-DIN	Weld-in thermowell according DIN	43772											
Form													
W4	Form 4												
Process Con													
N	Plain												
Thermowell													
018	18h7												
024	24h7												
026	26h7 32h11												
032 Instrument (													
2	1/2 NPT Female												
4	G 1/2 Female												
7	M20x1,5 Female												
10	G 3/4 Female												
11	M14x1,5 Female												
12	M18x1,5 Female												
13	M27x2 Female												
Shank Type	WET AE I Officie												
Н	Tapered												
Nominal Len													
110	110 mm												
140	140 mm												
170	170 mm												
200	200 mm												
260	260 mm												
410	410 mm												
40999	Nominal length in 1 mm steps												
Immersion L													
065	65 mm												
073	73 mm												
125	125 mm												
133	133 mm												
275	275 mm												
40600	Nominal length in 1 mm steps												
Bore Diamet													
A C	7 mm												
	8 mm 11 mm												
J	11 mm 13 mm												
N	6 mm												
0	9 mm												
P	14 mm												
Q	3,5 mm												
Material													
F1	A 182 F11 Chrome Moly (1.7335)												
F2	A 182 F22 Chrome Moly (1.7380)												
S1	Stainless steel 304 (1.4301)												
S2	Stainless steel 304L (1.4306)												
S5	Stainless steel 316L (1.4404)												
S6	Stainless steel 316Ti (1.4571)												
SM	16 Mo3 (1.5415)												





# Thermowell according DIN 43772 Form 4

ORDE	ERING CODE
Options	(If choosing an option(s) must include a "X")
Cleanir	ng
6B	Cleaned for gaseous Oxygen or other strong oxidizing agents
6W	Cleaned for oxidizing processes other than Oxygen
Markin	ng/Tagging
NF	Tag number stamped on thermowell
NH	Stainless steel tag wired
NH1	Extra large stainless steel tag wired
Testing	g/Certificates
CD2	Certificate according to EN 10204 2.2
C3	Material Traceability Report acc. to EN 10204 3.1
CD5	Certificate according to NACE for Oilfields MR0175/ISO 15156-2009 and for Rafineries MR0103-2010
MQ	Positive material identification (PMI) test
W2	Dye penetration test
HN	Hydrostatic test (internal) acc. Ashcroft standard
W4	Hydrostatic test (internal) acc. customer standard
YQ	X-ray (bore concentricity)





# Thermowell according DIN 43772 Form 2G

ORDER	ING CODE	EXAMPLE:	TWT-DIN	2G	В	27	13	S	395	R	S6	хсз
Model												
TWT-DIN	Threaded thermowell according DI	N 43772										
Form												
2G	Form 2G											
Process Cor	nnection											
В	Parallel											
Р	NPT											
Connection	Size					,						
50	1/2" NPT Male											
75	3/4" NPT Male											
10	1" NPT Male											
16	M20x1,5 Male											
31	M25x1,5 Male											
27	M27x2 Male											
33	M33x2 Male											
Instrument	Connection											
4	G 1/2 Female											
7	M20x1,5 Female											
10	G 3/4 Female											
13	M27x2 Female											
14	M24x1,5 Female											
15	G 1/2 Male											
16	G 3/4 Male											
Shank Type								-				
Н	Tapered	3G										
S	Straight	2G										
Nominal Lei	ngth											
305	305 mm	2G										
395	395 mm	2G										
545	545 mm	2G										
307	307 mm	3G										
367	367 mm	3G										
427	427 mm	3G										
40999	Nomainal length in 1 mm steps											
Bore Diame	ter											
R	9 x 1 tube for 7 mm bore	2G										
S	11 x 2 tube for 7 mm bore	2G										
Т	12 x 2,5 tube for 7 mm bore	2G										
С	8 mm	3G										
N	6 mm	3G										
Material												
F1	A 182 F11 Chrome Moly (1.7335)	2G										
F2	A 182 F22 Chrome Moly (1.7380)											
S1	Stainless steel 304 (1.4301)											
S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											





### Thermowell according **DIN 43772 Form 2G**

ORDE	RING CODE	EXAMPLE:	TWT-DIN	2G	В	27	13	S	395	R	S6	хсз
	If choosing an option(s) must include	a "X")										
Cleanin	g											
6B	Cleaned for gaseous Oxygen	or other strong oxidizing	g agents	S								
6W	Cleaned for oxidizing process	es other than Oxygen										
Marking	g/Tagging											
NF	Tag number stamped on therr	nowell										
NH	Stainless steel tag wired											
NH1	Extra large stainless steel tag	wired										
Testing/	/Certificates											
CD2	Certificate according to EN 10	204 2.2										
C3	Material Traceability Report a	cc. to EN 10204 3.1										
	Certificate according to NACE											
CD5	Oilfields MR0175/ISO 15156-											
ODS	2009 and for Rafineries MR01	03-										
	2010											
MQ	Positive material identification	(PMI) test										
W2	Dye penetration test											
HN	Hydrostatic test (internal) acc	Ashcroft standard										
W4	Hydrostatic test (internal) acc.	customer standard										
YQ	X-ray (bore concentricity)											





# Thermowell according DIN 43772 Form 3G

ORDER	ING CODE	EXAMPLE:	TWT-DIN	3G	В	27	14	Н	367	8	S6	хсз
Model												
TWT-DIN	Threaded thermowell according D	IN 43772										
Form	This caded the movem according D			J								
3G	Form 3G											
Process Co												
В	Parallel											
Р	NPT											
Connection	Size					_						
50	1/2" NPT Male											
10	1" NPT Male											
16	M20x1,5 Male											
31	M25x1,5 Male											
27	M27x2 Male											
33	M33x2 Male											
Instrument	Connection											
14	M24x1,5 Female											
Shank Type	,											
Н	Tapered											
Nominal Le	ngth											
307	307 mm											
367	367 mm											
427	427 mm											
40999	Nomainal length in 1 mm steps											
Bore Diame	ter									-		
N	6 mm											
С	8 mm											
Material												
F2	A 182 F22 Chrome Moly (1.7380)											
S1	Stainless steel 304 (1.4301)											
S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											
Options (If	choosing an option(s) must include a "X"	<b>')</b>										
Cleaning												
6B	Cleaned for gaseous Oxygen or ot	her strong oxidizi	ng agen	ts								
6W	Cleaned for oxidizing processes of	ther than Oxygen										
Marking/	Tagging											
NF	Tag number stamped on thermow	ell										
NH	Stainless steel tag wired											
NH1	Extra large stainless steel tag wire	d										
_	ertificates											
CD2	Certificate according to EN 10204	2.2										
C3	Material Traceability Report acc. to	EN 10204 3.1										
	Certificate according to NACE for											
CD5	Oilfields MR0175/ISO 15156- 2009 and for Rafineries MR0103-											
	2010											
MQ	Positive material identification (PM	II) test										
W2	Dye penetration test	,										
HN	Hydrostatic test (internal) acc. Ash	croft standard										
W4	Hydrostatic test (internal) acc. cus											
YQ	X-ray (bore concentricity)	- Clairdard										





# Thermowell according DIN 43772 Form 2F, 3F and 4F

ORDER	ING CODE	EXAMPLE:	TWF-DIN	3F	PN40	DN50	13	S	410	N	S6	хсз
Model												
TWF-DIN	Flanged thermowell according DIN Flange according EN 1092-1	43772 with										
Form		Flange style										
A2	Form 2F	Form A (flat)										
A3	Form 3F	Form A (flat)										
A4	Form 4F	Form A (flat)										
B2	Form 2F	Form B1 or B2	(raised)									
B3	Form 3F	Form B1 or B2	(raised)									
B4	Form 4F	Form B1 or B2	(raised)									
D2	Form 2F	Form C (tounge	d)									
D3	Form 3F	Form C (tounge	d)									
D4	Form 4F	Form C (tounge	d)									
N2	Form 2F	Form D (groove	d)									
N3	Form 3F	Form D (groove	d)									
N4	Form 4F	Form D (groove	d)									
Rating					_							
J	PN10											
K	PN16											
L	PN25											
М	PN40											
N	PN64											
Р	PN80											
Q	PN100											
R	PN250											
Connection						,						
10	DN25											
15	DN40											
20	DN50											
30	DN80											
Instrument												
4	G 1/2 Female											
7	M20x1,5 Female											
10	G 3/4 Female											
11	M14x1,5 Female											
12	M18x1,5 Female											
13	M27x2 Female											
14	M24x1,5 Male											
Shank Type												
Н	Tapered											
S	Straight											
Nominal Lei									J			
200	200 mm											
260	260 mm											
305	305 mm											
307	307 mm											
367	367 mm											
395	395 mm											
410	410 mm											
427	427 mm											
545	545 mm											
40999	Nomainal length in 1 mm steps											
40333	riomanianengin in i min sieps											





ORDEF	RING CODE	EXAMPLE:	TWF-DIN	3F	PN40	<b>DN50</b>	13	S	410	N	S6	хсз
Dave Diem	-1											
Bore Diam												
A	7 mm											
С	8 mm											
J	11 mm											
L	13 mm											
N	6 mm											
0	9 mm											
P	14 mm											
Q	3,5 mm											
R	9 x 1 tube for 7 mm bore											
S	11 x 2 tube for 7 mm bore											
Т	12 x 2,5 tube for 7 mm bore											
Material												
F1	A 182 F11 Chrome Moly (1.7335)											
S1	Stainless steel 304 (1.4301)											
S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											
	choosing an option(s) must include a "X	(")										
Cleaning												
6B	Cleaned for gaseous Oxygen or o	•	ng agent	ts								
6W	Cleaned for oxidizing processes	other than Oxygen										
Marking/	Tagging											
NF	Tag number stamped on thermov	vell										
NH	Stainless steel tag wired											
NH1	Extra large stainless steel tag wire	ed										
Testing/C	Certificates											
CD2	Certificate according to EN 10204	4 2.2										
C3	Material Traceability Report acc.	to EN 10204 3.1										
CD5	Certificate according to NACE for	r Oilfields MR0175	/ISO 151	56-200	9 and fo	r Rafineri	es MR0	0103-20	10			
MQ	Positive material identification (PI	VII) test										
W2	Dye penetration test											
HN	Hydrostatic test (internal) acc. As	hcroft standard										
W4	Hydrostatic test (internal) acc. cu											
YQ	X-ray (bore concentricity)											





# Thermowell according DIN 43772 Form 5, 6, 7, 8 and 9

ORDER	ING CODE	EXAMPLE:	TWT-DIN	T8	В	27	13	S	288	0	S6	хсз
Model												
TWT-DIN	Threaded thermowell according DI	IN 43772										
Form												
T5	Form 5											
T6	Form 6											
T7	Form 7											
T8	Form 8											
T9	Form 9											
Process Co												
В	Parallel											
P	NPT											
Connection												
50	1/2" NPT Male											
10	1" NPT Male											
16	M20x1,5 Male											
31	M25x1,5 Male											
27	M27x2 Male											
33	M33x2 Male											
Instrument												
4	G 1/2 Female											
7	M20x1,5 Female											
10	G 3/4 Female											
13	M27x2 Female											
15	G 1/2 Male											
16	G 3/4 Male											
Shank Type												
S	Straight											
Nominal Le		TE TC 0* T7										
110	110 mm	T5, T6 or T7										
170 260	170 mm 260 mm	T5, T6 or T7 T5, T6 or T7										
410	410 mm	T5, T6 or T7										
101	101 mm	T8 or T9										
	138 mm	T8 or T9										
138												
198	198 mm	T8 or T9 T8 or T9										
288	288 mm	T8 or T9										
438	438 mm  Nomainal length in 1 mm steps	10 01 19										
40999	<del>-</del>											
Bore Diame												
A	7 mm 11 mm											
J		not T7										
L	13 mm 9 mm	HOL 17										
O P	9 mm 14 mm	not T7										
Material	14 111111	1101 17										
AA	Brass											
F1	A 182 F11 Chrome Moly (1.7335)											
F1 F2	A 182 F11 Chrome Moly (1.7380) A 182 F22 Chrome Moly (1.7380)											
S1	Stainless steel 304 (1.4301)											
S1 S2	Stainless steel 304L (1.4306)											
S5	Stainless steel 316L (1.4404)											
S6	Stainless steel 316Ti (1.4404) Stainless steel 316Ti (1.4571)											
SM	16 Mo3 (1.5415)											
JIVI	10 1000 (1.0410)											





**ORDERING CODE** EXAMPLE: TWT-DIN **T8** 288 S6 хсз 27 Options (If choosing an option(s) must include a "X") Cleaning 6B Cleaned for gaseous Oxygen or other strong oxidizing agents 6W Cleaned for oxidizing processes other than Oxygen Marking/Tagging NF Tag number stamped on thermowell NH Stainless steel tag wired NH1 Extra large stainless steel tag wired Testing/Certificates CD2 Certificate according to EN 10204 2.2 С3 Material Traceability Report acc. to EN 10204 3.1 Certificate according to NACE for Oilfields MR0175/ISO 15156-CD5 2009 and for Rafineries MR0103-2010 MQ Positive material identification (PMI) test W2 Dye penetration test Hydrostatic test (internal) acc. Ashcroft standard HNW4 Hydrostatic test (internal) acc. customer standard YQ X-ray (bore concentricity)

