

SHEATHED THERMOCOUPLE

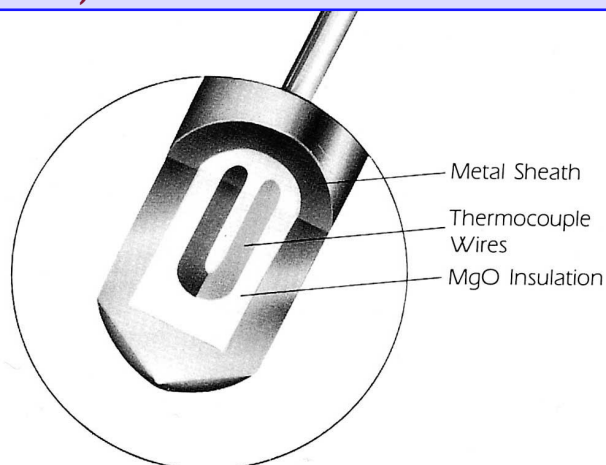


Sheathed Thermocouple (MODEL : DST)

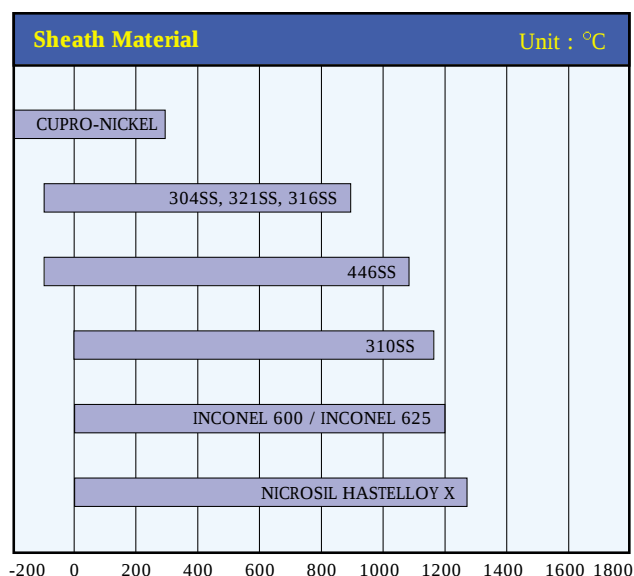
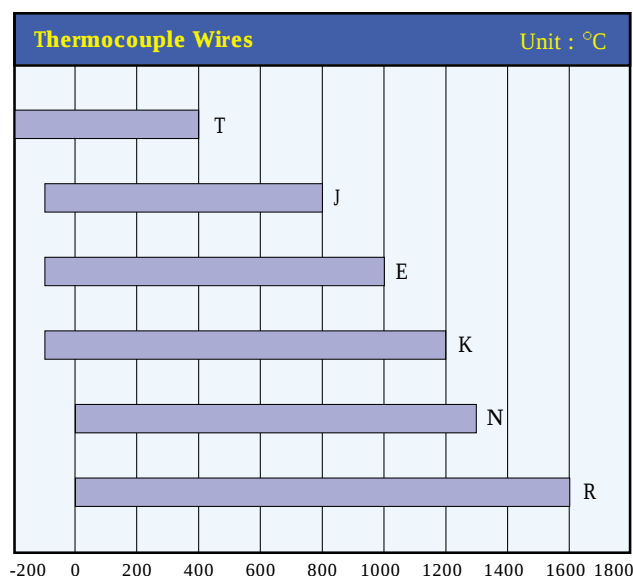
Sheathed Thermocouple What is it?

Sheathed Thermocouple is a trade name of DAEHAN sheathed Thermocouple that is composed of a fine gaged metal sheath in which high purity MgO powder is tightly compacted around thermoelement wires.

Sheathed Thermocouple sheathed Thermocouple has high insulation and pressure resistance. It has also high reliability because of its EMF tolerance falling within the limits stipulated by JIS (C 1605-1982), ANSI, BS, DIN, etc.



Sheathed Thermocouple Measuring Range



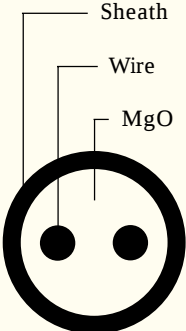
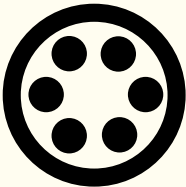
Sheathed Thermocouple Hot Junctions

Type I (Grounded)		Thermoelement wires are welded together directly at hot end of the sheath to form a hot junction. Quick response and suitable at high temperature and pressure but not recommendable for use in critical and noise generating field.
Type II (Ungrounded)		Thermoelement wires are welded together to form a hot junction which is completely insulated from the sheath. Slow response than Type I but less again deterioration of EMF and usable for long service in critical and noise generating field.
Type III (Exposed)		Both ends of thermoelement wires are welded together to form a hot junction protruding from the sheath. Quick response and can detect even slight temperature change but not usable for long time in corrosive, high temperature and high pressure atmospheres.

SHEATHED THERMOCOUPLE



■ Sheathed Thermocouple Type and Sizes

	Nom.O.D. (mm)	Wire Dia. (mm)	Wall Thick. (mm)	Type	Sheath Material	Max. Length (m)	Weight (m)
Single Pair 	0.25	0.04	0.05	K	INCONEL600	5	0.4
	0.5	0.09	0.09	K•E•J	INCONEL600 304SS, 321SS, 316SS, 310SS	50	1.3
	1.0	0.18	0.15	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	100	5
	1.6	0.28	0.23	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	300	13
	2.2	0.40	0.33	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	300	24
	3.2	0.58	0.48	K•E•J•T•N	INCONEL600, Cupro-nickel, Nicrosil 304SS, 321SS, 316SS, 310SS	200	51
	4.8	0.84	0.71	K•E•J•T•N	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS, Nicrosil	100	115
	6.4	1.12	0.94	K•E•J•T•N	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS, Nicrosil	60	193
	8.0	1.37	1.17	K•E•J•T•N	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS, Nicrosil	35	300
Dual Pair 	1.6	0.23	0.23	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	300	13
	2.2	0.33	0.33	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	300	22
	3.2	0.46	0.48	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS	157	45
	4.8	0.71	0.74	K•E•J•T	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS	68	102
	5.4	0.94	1.02	K•E•J•T	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS	38	222
	8.0	1.24	1.24	K•E•J•T	INCONEL600, Cupro-nickel, Hastelloy X. 304SS, 321SS, 316SS, 310SS, 446SS	24	350
Triple Pair 	3.2	0.28	0.33	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS, 446SS	160	33
	4.8	0.38	0.46	K•E•J•T	INCONEL600 304SS, 321SS, 316SS, 310SS, 446SS	70	80
	6.4	0.48	0.64	K•E•J•T	INCONEL600 304SS, 316SS, 310SS, 446SS	41	130
	8.0	0.61	0.79	K•E•J•T	INCONEL600 304SS, 316SS, 310SS, 446SS	24	210

Also available special sheath material : 304L, 316L Incone1625, Incoloy825

Optional O.D. Size : 1.5mm, 2.0mm, 3.0mm, 4.5mm, 6.0mm, 9.5mm, 10.5mm, 12.7mm, 15.9mm, 19.1mm.

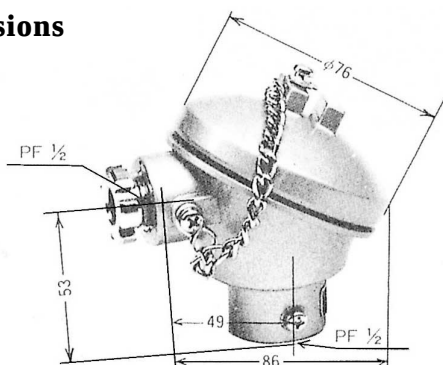
SHEATHED THERMOCOUPLE



■ Terminal Box

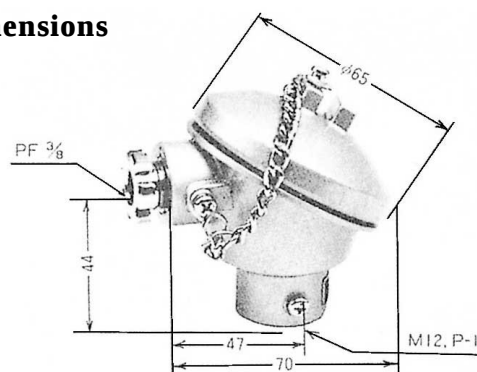
Type	Weather Proof SN
Material	Al-alloy diecast, Cast Iron
Conduit Dia.	PF 1/2 • PF 3/4
No. of Terminal	2 • 3 • 4 • 6
Terminal Block	Bakelite, Ceramic
Surface Finish	Melamine baked
Surface Color	Metallic silver

Dimensions



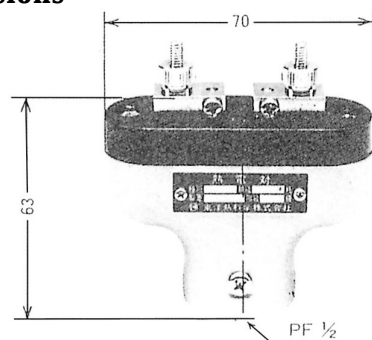
Type	Weather Proof SS
Material	Al-alloy diecast, Phenol Resin
Conduit Dia.	PF 3/8
No. of Terminal	2 • 3
Terminal Block	Bakelite, Ceramic
Surface Finish	Melamine baked
Surface Color	Metallic silver

Dimensions



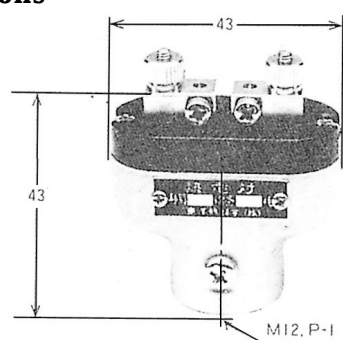
Type	Wall Mount SW
Material	Al-alloy diecast
Conduit Dia.	PF 1/2 • PF 3/4
No. of Terminal	2 • 3 • 4 • 6
Terminal Block	Bakelite, Ceramic
Surface Finish	Melamine baked
Surface Color	Metallic silver

Dimensions



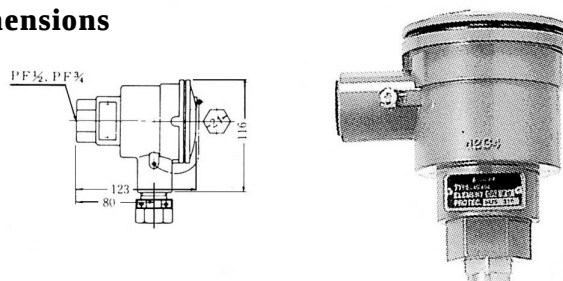
Type	Exposed Terminal SL
Material	Al-alloy diecast
Conduit Dia.	-
No. of Terminal	2
Terminal Block	Bakelite, Ceramic
Surface Finish	Melamine baked
Surface Color	Metallic silver

Dimensions



Type	*Flame Proof KG (d2 G4)
Material	Al-alloy diecast, Cast Iron Stainless Steel
Conduit Dia.	M16 • 20 • 25 • PF 1/2 • PF 3/4
No. of Terminal	2 • 3 • 4 • 6
Terminal Block	Bakelite (Ceramic)
Surface Finish	Melamine baked
Surface Color	Metallic silver

Dimensions



SHEATHED THERMOCOUPLE



INNOBIZ

2003-F240

■ Standard Models

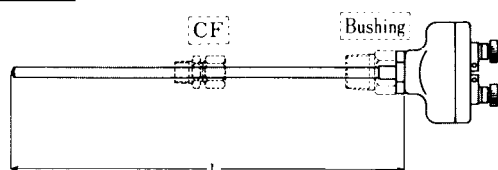
DST-001 Basic Type with Terminal Box	DST-008 Ceramic Protection Tube Type (Metal Support)
DST-002 Screwed Type	DST-009 Ceramic Protection Tube Type (Flanged)
DST-003 Flanged Type	DST-010 Dual Protection Tube Type (Inner: Ceramic, Outer: Metal)
DST-004 Spring-Loaded Type (Screwed)	DST-011 Dual Ceramic protection Tube Type (Metal Support)
DST-005 Metal Protection Tube Type	DST-012 Dual Ceramic Protection Tube Type (Flanged Type I)
DST-006 Metal Protection Tube Type (Screwed)	DST-013 Dual Ceramic protection Tube Type (Flanged Type II)
DST-007 Metal Protection Tube Type (Flanged)	DST-014 Metal Connector Type

SHEATHED THERMOCOUPLE

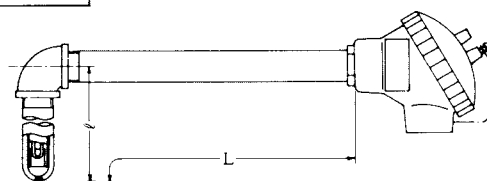


■ Standard Models

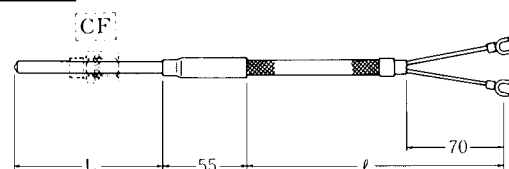
DST-015 Exposed Terminal Type



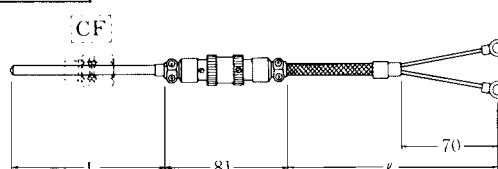
DST-018 L Type Assembly



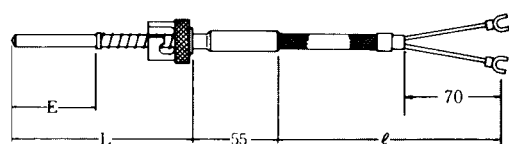
DST-016 Flexible Lead Type



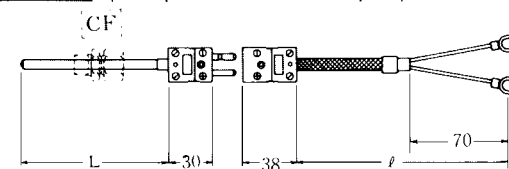
DST-019 Metal Connector type



DST-017 Bayonet spring Load Type



DST-020 Quick Connector Type
(Compensated Contact pins)



SHEATHED THERMOCOUPLE



■ Sheathed Thermocouple Ordering Information

MODELS	SUFFIX CODES	DESCRIPTION
Sheathed Thermocouple	DST-001~020-----	형태를 참고하여 선정
Element	Type and Single or Double -----	K, J, T, E, N, R, S, B 예) K.S = K Type Single E.D = E Type Double
	OP-----	Option
Sheath Material	4S(4L)-----	304SS(304L SS)
	6S(6L)-----	316SS(316L SS)
	I6 -----	Inconel600
	P4 -----	446SS
	21 -----	321SS
	10-----	310SS
	OP-----	Option(재질 직접 표기)
Sheath Diameter	A-----	0.5mm
	B-----	1.0mm
	C-----	1.6mm
	D-----	2.3mm
	E-----	3.2mm
	F-----	4.8mm
	G-----	6.4mm
	H-----	8.0mm
	OP -----	Option(직경 직접 표기)
Length(L/I)	□□□-----	직접표기(단위mm)
Mounting Connection	05-----	PT1/8 NPT의 경우 N05
	08-----	PT1/4 NPT의 경우 N08
	10-----	PT3/8 NPT의 경우 N10
	15-----	PT1/2 NPT의 경우 N15
	20-----	PT3/4 NPT의 경우 N20
	25-----	PT1 NPT의 경우 N20
	1025-----	10K 25A Flange
	1040-----	10K 40A Flange
	1050-----	10K 50A Flange
	OP-----	Option(Connection 직접 표기)
Enclosure	W-----	Weather Proof
	E-----	Explosion Proof
Conduit Connection	1-----	PF1/2
	2-----	PF3/4
	OP-----	Option(Connection 직접 표기)
Option		/□□□



SPECIAL SHEATH THERMOCOUPLE

Model : DST-QSP-1000L/50I

www.dhinst.co.kr

F

E

D

C

B

A

8

7

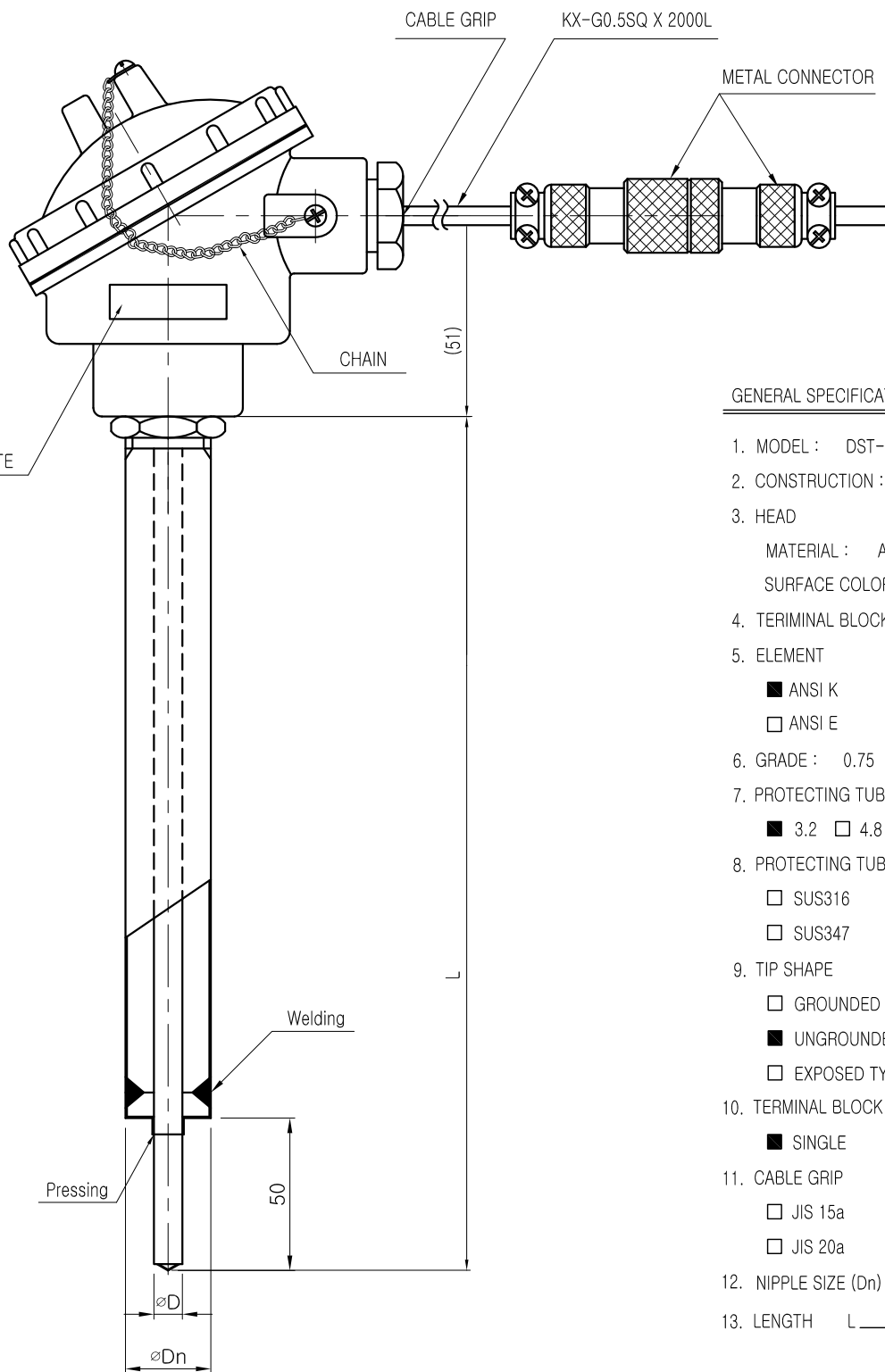
6

5

4

3

2



GENERAL SPECIFICATION

- MODEL : DST-QSP-1000L/50I
- CONSTRUCTION : WEATHER PROOF
- HEAD
MATERIAL : ALUMINUM ALLOY
SURFACE COLOR : METALLIC SILVER
- TERMINAL BLOCK MATERIAL : CERAMIC
- ELEMENT
☒ ANSI K ☐ ANSI J
☐ ANSI E ☐ ANSI T
- GRADE : 0.75
- PROTECTING TUBE OUTER DIAMETER(D)
☒ 3.2 ☐ 4.8 ☐ 6.4 ☐ 8.0
- PROTECTING TUBE MATERIAL
☐ SUS316 ☐ SUS310
☐ SUS347 ☒ INCONEL 690
- TIP SHAPE
☐ GROUNDED TYPE
☒ UNGROUNDED TYPE
☐ EXPOSED TYPE
- TERMINAL BLOCK
☒ SINGLE ☐ DOUBLE
- CABLE GRIP
☐ JIS 15a ☒ JIS 15b ☐ JIS 15c
☐ JIS 20a ☐ JIS 20b ☐ JIS 20c
- NIPPLE SIZE (Dn) 21.7Ø ,MAT'L 316SS
- LENGTH L 1000 (mm)

PROJECT NAME

TITLE

SPECIAL SHEATH THERMOCOUPLE

DRAWN

CHECKED

REVIEWED

APPROVED

SCALE

REV. No

REV.	DATE	REV. DESCRIPTION	DRAWN	CHECKED	REVIEWED	APPROVED



DAEHAN INSTRUMENT CO.,LTD.

DATE :

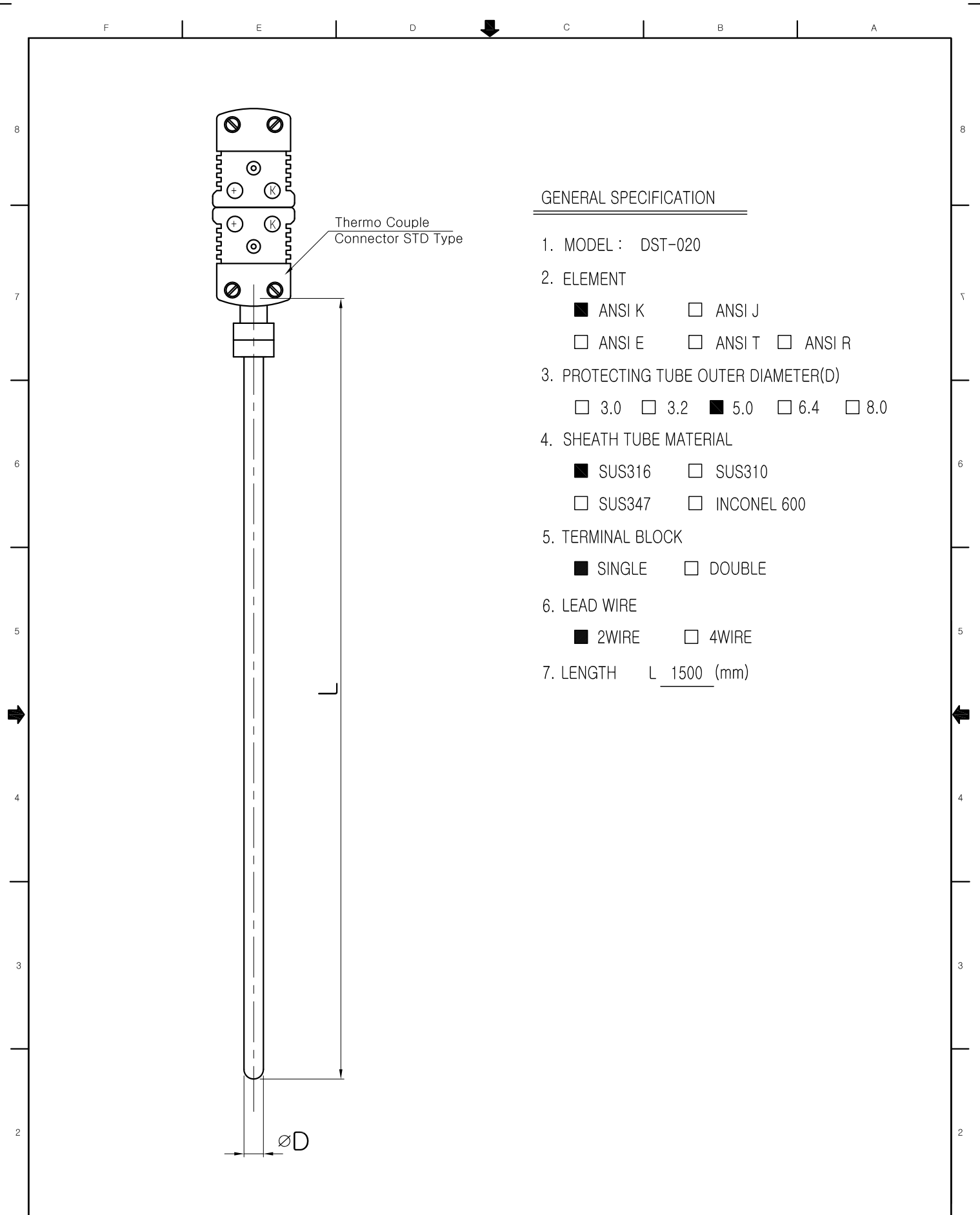
TAG NO

DRAWING NO

SHEET :

OF

DST-QSP.dwg



GENERAL SPECIFICATION

1. MODEL : DST-020
2. ELEMENT
☒ ANSI K ☐ ANSI J
☐ ANSI E ☐ ANSI T ☐ ANSI R
3. PROTECTING TUBE OUTER DIAMETER(D)
☐ 3.0 ☐ 3.2 ☒ 5.0 ☐ 6.4 ☐ 8.0
4. SHEATH TUBE MATERIAL
☒ SUS316 ☐ SUS310
☐ SUS347 ☐ INCONEL 600
5. TERMINAL BLOCK
☒ SINGLE ☐ DOUBLE
6. LEAD WIRE
☒ 2WIRE ☐ 4WIRE
7. LENGTH L 1500 (mm)

							PROJECT NAME —							
							TITLE THERMOCOUPLE(SHEATHE TYPE)							
1		12.00.00	Issued for Appraisal	W. H. CHOI	K. S. HEO	D. S. LEE	S. H. HAN	DRAWN	CHECKED	REVIEWED	APPROVED	SCALE	REV. No	1
	REV.	DATE	REV. DESCRIPTION	DRAWN	CHECKED	REVIEWED	APPROVED	Choi Won Hee	Heo Ki Su	Lee Du Seon	Han Sang Hie	N/S		
								DATE : 2012. 00. 00		MODEL		DRAWING NO		MATERIAL
								SHEET : OF		—		DST-020		—
F		E		D		C		B		A				

F

E

D

C

B

A

8

7

6

5

4

3

2

8

7

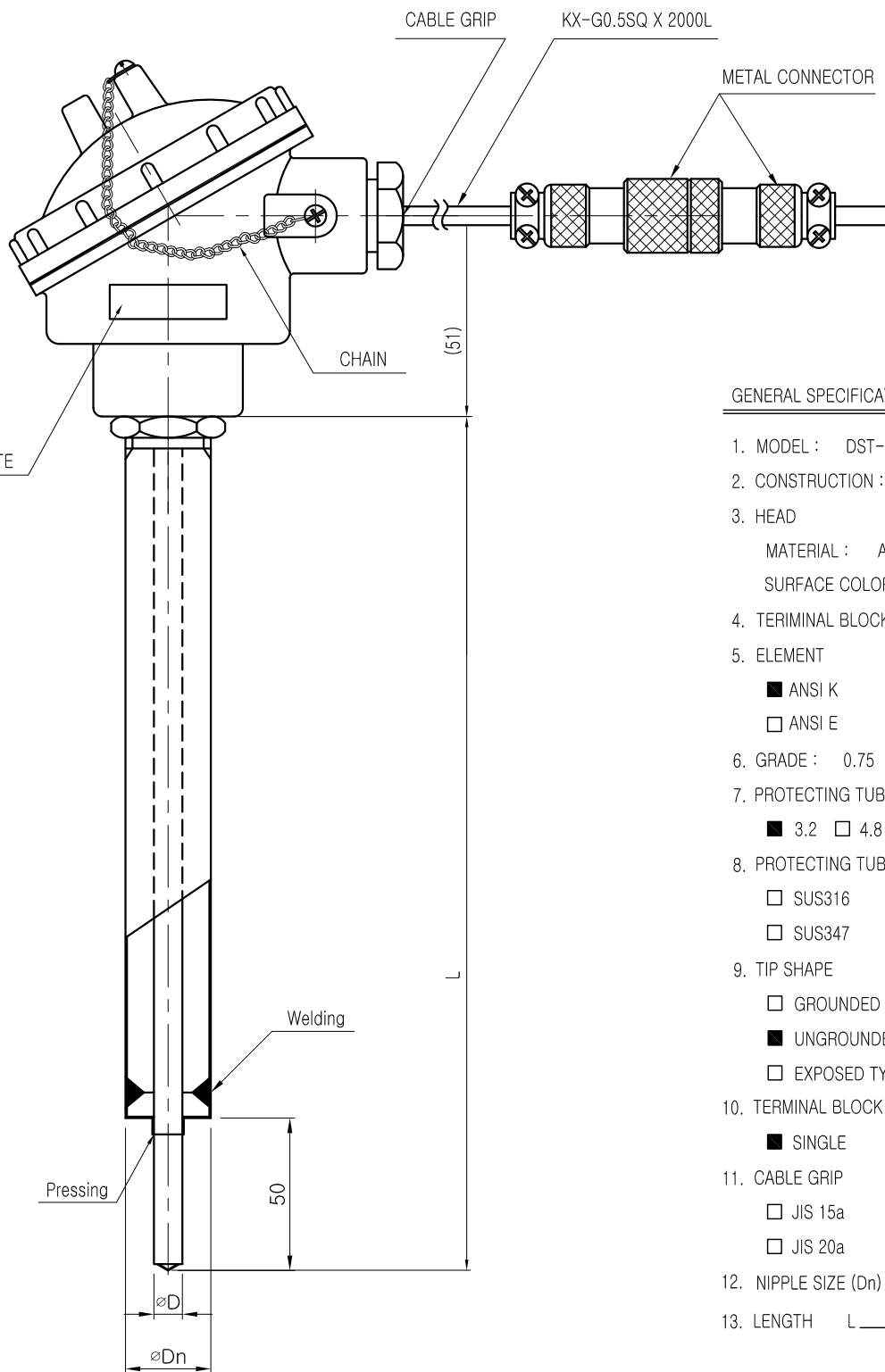
6

5

4

3

2



GENERAL SPECIFICATION

- MODEL : DST-QSP-1000L/50I
- CONSTRUCTION : WEATHER PROOF
- HEAD
MATERIAL : ALUMINUM ALLOY
SURFACE COLOR : METALLIC SILVER
- TERMINAL BLOCK MATERIAL : CERAMIC
- ELEMENT
☒ ANSI K ☐ ANSI J
☐ ANSI E ☐ ANSI T
- GRADE : 0.75
- PROTECTING TUBE OUTER DIAMETER(D)
☒ 3.2 ☐ 4.8 ☐ 6.4 ☐ 8.0
- PROTECTING TUBE MATERIAL
☐ SUS316 ☐ SUS310
☐ SUS347 ☒ INCONEL 690
- TIP SHAPE
☐ GROUNDED TYPE
☒ UNGROUNDED TYPE
☐ EXPOSED TYPE
- TERMINAL BLOCK
☒ SINGLE ☐ DOUBLE
- CABLE GRIP
☐ JIS 15a ☒ JIS 15b ☐ JIS 15c
☐ JIS 20a ☐ JIS 20b ☐ JIS 20c
- NIPPLE SIZE (Dn) 21.7Ø ,MAT'L 316SS
- LENGTH L 1000 (mm)

PROJECT NAME

TITLE

SPECIAL SHEATH THERMOCOUPLE

DRAWN

CHECKED

REVIEWED

APPROVED

SCALE

REV. No

REV.	DATE	REV. DESCRIPTION	DRAWN	CHECKED	REVIEWED	APPROVED



DAEHAN INSTRUMENT CO.,LTD.

DATE :

TAG NO

DRAWING NO

SHEET :

OF

DST-QSP.dwg