

CERTIFICATE RELATED DRAWING
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APPROVED: TIM PRATT

CERTIFICATES: IECEx BAS 10.0102U
IECEx BAS 10.0103X
Baseefa10ATEX0203U
Baseefa10ATEX0204X
FM18CA0065X
FM18US0131X
INMETRO UL-BR 12.0034U
INMETRO UL-BR 12.0003X
NEPSI GYJ18.1298U
NEPSI GYJ18.1299X



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SALES ORDER SPECIFICATION

UNIK5000 & UNIK5000UK

PRESSURE SENSING PLATFORM

S0092

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Amendment Record

Rev. Lev.	Date	Author	Amendments
V	24/07/17	Haibin	Section 5.9: Amend the maximum working pressure for high pressure PX connector from 500 bar to 499.999999 bar.
W	21 Aug 18	S. Rees S. Hamilton T. Pratt	Front page: NEPSI certificate numbers updated. Section 1: Drawing 111M3875 deleted. Section 4: Electrical connector option M replaced by N. Section 5.3: Electrical connector option M replaced by N; cable 192-758-03 added. Section 5.5: Electrical connector option N added. Section 5.8: 2 nd table centre column revised to aid understanding; 5 th , 6 th and 7 th tables revised to replace electrical connector option M with N. Section 5.9: Text prior to 2 nd table changed from 'pressure range code' to 'pressure type'. Section 5.12: Drawings 122M6578, 123M6843, 126M6522 and 131M5183 added. Section 6.1: Electrical connector option M replaced by N. Miscellaneous layout improvements. Section 7: Corrected Ratio calculation. Section 1: Introduction updated
Y	04 Oct 18	J Hannaford-Smith	Section 1 updated. Section 5.8, second table note updated.
AA	17 Dec 18	J Hannaford-Smith	Document updated to reflect changes in DC0069. Front page: UNIK5000UK added. Section 1, 2, 3, 4, 5, 5.3, 5.8 and 5.11: Updated to reflect the addition of UNIK5000UK.
AB	15 Jan 19	QC. Chen	Section 4: Pressure connector RT added. Section 5.9: Pressure connector RT and new part number '227-648-01' added.
AC	24 Apr 19	J. Hare	Updated document to current format as per DC0069 Section 4: Calibration variant CR added Section 5.7: Calibration variant CR added
AD	26 Jun 19	J Hannaford-Smith	Section 5.3 cable part number changed from 192-327-02 to 125M0269-1 for Electrical Connector 3
AE	03 Jul 19	J. Sun K. Fang	Cover page: FM Approvals certificate numbers updated. Section 1: Reference to addition of UNIK5000UK converted to past-tense. Section 4: Updated PV code description to 'PV: 7/16-20 UNJF Female' Section 5.8: Electrical Connector option R made available with Hazardous Area Approval options H6 and HS. Section 5.9: 'Available-see module selection' added for PU & PV code of pressure range '>70 bar'. Sections 5.10.3 and 5.10.4: For pressure ranges above 70 bar, PU & PV pressure modules MX137M0473-14 to -18 and MX137M0474-14 to -18 added. Section 5.12: Drawing 134M6667 added; E-A3-5627 removed; table sorted into numerical order by drawing number.
AF	08 May 21	SF. Zheng	Updated to DC0069 latest template Section 5.12: Drawing 154M6690 added
AG	01 Sep 21	L.Li	Correct some font size to match DC0069 requirement Add P58: 7/16-20 UNF Autoclave to Section 4, Section 5.9 Add P58 Option MX156M5178-06 to Pressure Range Code 21A in Section 5.10.3, Pressure Range Code 21S in Section 5.10.4
AH	15 Oct 21	L.Li	Amend MX156M5178-06 to MX156M5178-18 for Section 5.10.3 & 5.10.4
AJ	02 Dec 21	R.Sahota	Changes made in revisions AG and AH as detailed above reverted to Rev AF.
AK	17 Dec 21	L.Li	Add P58: 7/16-20 UNF Autoclave to Section 4, Section 5.9 Add P58 Option MX156M5178-18 to Pressure Range Code 21A in Section 5.10.3, Pressure Range Code 21S in Section 5.10.4

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AL	13 Apr 21	R.Sahota	Section 4- 'PS: 1/4 Swagelock Bulkhead' description amended to 'PS: 1/4 Swagelok Bulkhead' Section 5.10.2- gauge 68 mbar to 70 bar table range values updated. Section 5.10.3- absolute 100 mbar to 700 bar table range values updated. Section 7.1 +x to +y offset values table updated. Section 7.2 +x to +y offset values table updated
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Details of all amendments prior to V can be found in revision U, removed from here due to volume.

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1

INTRODUCTION

This document describes the configuration rules and some of the more complex parts and rules for the SuperBOM of VC models UNIK5000 and UNIK5000UK.

UNIK5000 is the original datasheet product and is manufactured in China 7110 plant.

UNIK5000UK has been added to allow a UK 6210 plant manufactured version of this product, initially for the US market to alleviate US tariff issues, though this may be extended elsewhere should the need arise.

It is not currently possible to manufacture Electrical Connector Option N or Hazardous Area Option J1 in UK 6210, the VC and Sbom for UNIK5000UK does not include these options.

See section 5.12 and separate E-Drawings for specification and build locations of customer specific versions.

UNIK5000 VC has material variants associated to it for stocked specifications, parts are in the format of UNIK5000-STOCK-* (where * is replaced by numbers from 1 upwards to a maximum of 999)

UNIK5000UK VC will also have variants associated, the format for these will be UNIK5000UK-* (where * is replaced by numbers from 1 upwards to a maximum of 999).

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REFERENCES

The following documents and specifications are related to this document:

Ref	Number	Description
[1]	DS0133	Design Specification
[2]	E-A3-5000	Specification Drawing (English Marking-Generic)
[3]	E-A3-5245	Specification Drawing (Chinese Marking-built in China for China)
[4]	S0092-SBOM	UNIK5000 and UNIK5000UK SuperBOM
[5]	S0095	Sales Order Specification Generic Pressure Connectors

Table 1 - Related Documentation

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SAP PART NUMBERS

China manufactured:

UNIK5000 Pressure Sensing Platform

UK manufactured:

UNIK5000UK Pressure Sensing Platform

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Value	Description	PMP	50	0	0	-	TA	-	A1	-	CA	-	H0	-	PA
Main Product Variant															
PMP	PMP Amplified Transducer														
PDCR	PDCR mV Transducer														
PTX	PTX 4-20mA Transmitter														
Product Diameter and Material															
50	50: 25mm Stainless Steel														
Electrical Connector															
0	0: None														
1	1: Cable Gland Vented Cable														
2	2: Raychem Cable														
3	3: Polyurethane Depth Cable														
4	4: Hytrex Depth Cable														
6	6: MIL-C-26482 Bayonet														
7	7: DIN 43650 Demountable														
A	A: MIL-C-26482 Demountable														
C	C: 1/2NPT Conduit Vented Cable														
D	D: Micro DIN (9.4 mm Pitch)														
E	E: MIL-C-26482														
F	F: MIL-C-26482 Demountable														
G	G: M12 x 1 4-Pin														
K	K: Zero Halogen Cable														
N	N: Kynar Depth Cable (China manufactured only – UNIK5000)														
R	R: M20 x 1.5 Female Demountable														
Electronics Option															
0	0: mV Passive														
1	1: mV Linearised														
2	2: 4 to 20 mA														
3	3: 0 to 5 Volts 4-wire														
4	4: 0 to 5 Volts 3-wire														
5	5: Basic Configurable Voltage														
6	6: 0 to 10 Volts														
7	7: 0.5 to 4.5 V Ratiometric														
8	8: Configurable Voltage 4-wire														
9	9: Configurable Voltage 3-wire														
Compensated Temperature Range															
TA	TA: -10 to +50 °C														
TB	TB: -20 to +80 °C														
TC	TC: -40 to +80 °C														
TD	TD: -40 to +125 °C														
Accuracy															
A1	A1: Industrial														
A2	A2: Improved														
A3	A3: Premium														
Calibration															
CA	CA: Zero/Span Data														
CB	CB: Room Temperature														
CC	CC: Full Thermal														
CR	CR: Room Temp/Measured Reading														
Hazardous Area Approval															
H0	H0: None														
H1	H1: IECEEx/ATEX IS Group IIC														
H2	H2: IECEEx/ATEX IS Group I														
H6	H6: C&US IS Groups IIC/ABCD														
HA	HA: IECEEx/ATEX IS (H1+H2)														
HS	HS: IECEEx/ATEX/C&US IS (H1+H6)														
J1	J1: IECEEx/ATEX/NEPSI IS IIC (China manufactured only – UNIK5000)														
JA	JA: INMETRO IS Group IIC														
JB	JB: INMETRO IS Group I														
JF	JF: INMETRO IS Groups I/IIIC														
Pressure Connector															
PA	PA: G1/4 Female														
PB	PB: G1/4 Male Flat														
PC	PC: G1/4 Male 60° Int Cone														
PD	PD: G1/8 Male 60° Int Cone														
PE	PE: 1/4 NPT Female														
PF	PF: 1/4 NPT Male														
PG	PG: 1/8 NPT Male														
PH	PH: M20 x 1.5 Male (3mm Bore)														
PJ	PJ: M14 x 1.5 60° Int Cone														
PK	PK: M12 x 1 Int Cone														
PL	PL: 7/16-20 UNJF Male 74° Ext														
PN	PN: G1/2 Male														
PQ	PQ: G1/4 Quick Connect														
PR	PR: 1/2 NPT Male														
PS	PS: 1/4 Swagelok Bulkhead														
PT	PT: G1/4 Male Flat Long														
PU	PU: 7/16-20 UNF Long 37° Flare Tip														
P58	P58: 7/16-20 UNF Autoclave														
PV	PV: 7/16-20 UNJF Female														
PW	PW: Depth Cone (G1/4 Female)														
PX	PX: 7/16-20UNF Male Short Flat														
PY	PY: 3/8-24 UNJF														
PZ	PZ: M10 x 1.0 80° Int Cone														
RA	RA: 1/4 VCR Female														
RB	RB: G1/4 Male Flat-Snubber														
RC	RC: G1/4 Male Flat-Cross Bore														
RD	RD: M12 x 1 74° Ext Wirelock														
RE	RE: Quick Release Male														
RF	RF: 1/4 VCR Male														
RJ	RJ: M20 x 1.5 Male (8mm Bore)														
RQ	RQ: NW16 Flange														
RT	RT: 1/8-27 NPT Female														
RU	RU: R3/8 Male														
RV	RV: R1/4 Male														
RW	RW: G1/4 Male with Nipple														

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5**CONFIGURATION**

This Section describes the configuration options and the limitations of each option for both UNIK5000 and UNIK5000UK unless otherwise stated.

5.1**Main Product Variant**

The Main Product Variant must be one of the following:

Code	Description
PMP	PMP Amplified Transducer
PDCR	PDCR mV Transducer
PTX	PTX 4-20mA Transmitter

5.2**Product Diameter and Material**

The Diameter and Material must be:

Code	Description
50	50: 25mm Stainless Steel

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5.3

Electrical Connector

The Electrical Connector must be one of the following:

Code	Description
0	0: None
1	1: Cable Gland Vented Cable
2	2: Raychem Cable
3	3: Polyurethane Depth Cable
4	4: Hytrel Depth Cable
6	6: MIL-C-26482 Bayonet
7	7: DIN 43650 Demountable
A	A: MIL-C-26482 Demountable
C	C: 1/2NPT Conduit Vented Cable
D	D: Micro DIN (9.4 mm Pitch)
E	E: MIL-C-26482
F	F: MIL-C-26482 Demountable
G	G: M12 x 1 4-Pin
K	K: Zero Halogen Cable
N	N: Kynar Depth Cable (China manufactured only - UNIK5000)
R	R: M20x1.5 Female Demountable

The following table lists the cable part numbers for each Electrical Connector Option Code:

Electrical Connector Code	Cable Part Number
0	-
1	192-004
2	192-352-01
3	125M0269-1
4	192-465-01
6	-
7	-
A	-
C	192-004
D	-
E	-
F	-
G	-
K	192-739-01
N	192-758-03
R	-

5.3.1

Cable Length Rules

Minimum length 1m/3ft

Hazardous Area Approval Codes	Maximum Length
H0	200 metres or 600 feet
All except H0	100 metres or 300 feet

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5.4

Electronics Option

The Electronics Option must be one of the following:

Code	Description
0	0: mV Passive
1	1: mV Linearised
2	2: 4 to 20 mA
3	3: 0 to 5 Volts 4-wire
4	4: 0 to 5 Volts 3-wire
5	5: Basic Configurable Voltage
6	6: 0 to 10 Volts
7	7: 0.5-4.5 V Ratiometric
8	8: Configurable Voltage 4-wire
9	9: Configurable Voltage 3-wire

The following Electronics Option Codes require the following Main Product Variant Codes to have been chosen:

Electronics Option Codes	Main Product Variant Codes
0, 1	PDCR
2	PTX
3, 4, 5, 6, 7, 8, 9	PMP

The following Electronics Option Codes require the following Electrical Connector codes to have been chosen:

Electronics Option Codes	Electrical Connector Code
Any	All except R
2	R

Electronics Option Codes 5, 8 and 9 require further information to be specified. The works order must specify the outputs at minimum and maximum pressures.

5.4.1

Electronics Option Code 5

The output configuration must be specified on the order narrative. The output voltage must be stated from the lowest specified pressure to the highest specified pressure.

Various output configurations are available, subject to the following limitations:

Parameter	Value (V)
Minimum span	4
Maximum span	10
Minimum Volts	0
Maximum Volts	11
Offset Indicator	/2

Parameter 'Offset Indicator' is used to calculate maximum offset and allows changes to be made in the future to calculation of maximum offset value.

Any zero offset up to span/2 is possible.
Reverse output response is not possible

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Examples:

Allowed	Not allowed
0 to 5 V	1 to 4 V (span too small)
1 to 6 V	4 to 11 V (offset too big)
1 to 11 V	

5.4.2 Electronics Option Codes 8 and 9

The output configuration must be specified on the order narrative. The output voltage must be stated from the lowest specified pressure to the highest specified pressure.

Various output configurations are available, subject to the following limitations:

Parameter	Value (V)
Minimum span	2
Maximum span	20
Minimum Volts	-10
Maximum Volts	+10
Offset Indicator	+0

Any zero offset will be possible up to $\pm 100\%$ span. e.g. with a 5 V span: -5 to 0, -2.5 to +2.5, 0 to 5 and 5 to 10 V are possible (and anything in between these values).

Reverse output response to pressure is possible.

Examples:

Allowed	Not allowed
-10 to 0 V	0 to 12 V (outside ± 10 V limits)
0 to 5 V	6 to 10 V (offset too big)
-5 to +5 V	0 to 0.5 V (span too small)
-2 to 10 V	
1 to 6 V	
10 to 0 V	

5.5

Compensated Temperature Range

The Compensated Temperature Range must be one of the following:

Code	Description
TA	TA: -10 to +50 °C
TB	TB: -20 to +80 °C
TC	TC: -40 to +80 °C
TD	TD: -40 to +125 °C

The following Compensated Temperature Range Codes require one of the following Electrical Connector Codes to have been chosen:

Compensated Temperature Range Codes	Electrical Connector Codes
TA, TB	Any
TC	Any
TD	0, 2, 6, A, E, F, G

The following Compensated Temperature Range Codes require one of the following Electronics Option Codes to have been chosen:

Compensated Temperature Range Codes	Electronics Option Codes
TA, TB, TC	Any
TD	0, 1, 2, 3, 4, 5, 6, 7

5.6

Accuracy

The Accuracy must be one of the following:

Code	Description
A1	A1: Industrial
A2	A2: Improved
A3	A3: Premium

The following Accuracy Codes require one of the following Electronics Options to have been chosen:

Accuracy Codes	Electronics Option Codes
A1, A2	Any
A3	1, 2, 3, 4, 5, 6, 7, 8, 9

5.7

Calibration

The Calibration option must be one of the following:

Code	Description
CA	CA: Zero/Span Data
CB	CB: Room Temperature
CC	CC: Full Thermal
CR	CR: Room Temp/Measured Reading

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5.8

Hazardous Area Approval

The Hazardous Area Approval option must be one of the following:

Code	Description
H0	H0: None
H1	H1: IECEx/ATEX IS Group IIC
H2	H2: IECEx/ATEX IS Group I
H6	H6: C&US IS Groups IIC/ABCD
HA	HA: IECEx/ATEX IS (H1+H2)
HS	HS: IECEx/ATEX/C&US IS (H1+H6)
J1	J1: IECEx/ATEX/NEPSI IS IIC (China manufactured only – UNIK5000)
JA	JA: INMETRO IS Group IIC
JB	JB: INMETRO IS Group I
JF	JF: INMETRO IS Groups I/IIC

Hazardous Area Approval availability by manufacturing location and generic E-drawing:

Hazardous Area Approval Codes	Manufacturing Location	Generic E-drawing
H0	UK, China	E-A3-5000 or E-A3-5245
H1, H2, H6, HA, HS	UK, China	E-A3-5000
J1	China only	E-A3-5245
JA, JB, JF	UK, China	E-A3-5000

China 7110 = UNIK5000, UK 6210 = UNIK5000UK

The following Hazardous Area Approval Codes require one of the following Compensated Temperature Range Codes:

Hazardous Area Approval Codes	Compensated Temperature Range Codes
H0	Any
H1, H2, H6, HA, HS, J1, JA, JB, JF	TA, TB, TC

The following Hazardous Area Approval Codes require one of the following Electronics Option Codes:

Hazardous Area Approval Codes	Electronics Option Codes
H0	Any
H1, H2, H6, HA, HS, J1, JA, JB, JF	0, 1, 2, 3, 4, 5, 6

The following Hazardous Area Approval Codes require one of the following Electrical Connector Codes:

Hazardous Area Approval Codes	Electrical Connector Codes
H0	Any
H1, J1, JA	0, 1, 2, 3, 4, 6, 7, A, C, D, E, F, G, N, R
H2, HA, JB, JF	0, 2, 3, 4, 6, C, E, G, N
H6, HS	0, 1, 2, 3, 4, 6, 7, A, C, D, E, F, G, R

The Hazardous Area Approval Installation Instructions are chosen according to the following tables:

Electrical Connector Code	Hazardous Area Approval Codes				
	H0	H1	H2, HA	H6	HS
0	-	K0490	K0490	KA0531	K0490 + KA0531
1		K0486	-	KA0531	K0486 + KA0531
2		K0486	K0486	KA0531	K0486 + KA0531
3		K0486	K0486	KA0531	K0486 + KA0531
4		K0486	K0486	KA0531	K0486 + KA0531
6		K0486	K0486	KA0531	K0486 + KA0531
7		K0486	-	KA0531	K0486 + KA0531
A		K0486	-	KA0531	K0486 + KA0531
C		K0486	K0486	KA0531	K0486 + KA0531
D		K0486	-	KA0531	K0486 + KA0531
E		K0486	K0486	KA0531	K0486 + KA0531
F		K0486	-	KA0531	K0486 + KA0531
G		K0486	K0486	KA0531	K0486 + KA0531
K		-	-	-	-
N		K0486	K0486	-	-
R		K0486	-	KA0531	K0486 + KA0531

Electrical Connector Code	Hazardous Area Approval Codes		
	J1	JA	JB, JF
0	K0490 + KC0555	KP0558	KP0558
1	K0486 + KC0556	KP0559	-
2	K0486 + KC0556	KP0559	KP0559
3	K0486 + KC0556	KP0559	KP0559
4	K0486 + KC0556	KP0559	KP0559
6	K0486 + KC0556	KP0559	KP0559
7	K0486 + KC0556	KP0559	-
A	K0486 + KC0556	KP0559	-
C	K0486 + KC0556	KP0559	KP0559
D	K0486 + KC0556	KP0559	-
E	K0486 + KC0556	KP0559	KP0559
F	K0486 + KC0556	KP0559	-
G	K0486 + KC0556	KP0559	KP0559
K	-	-	-
N	K0486 + KC0556	KP0559	KP0559
R	K0486 + KC0556	KP0559	-

Notes:

- a) '-' indicates that no Hazardous Area Approval Installation Instructions are required.
- b) Insert for Clampak (Part Number: 450-264) to be included whenever Hazardous Area Approval Installation instructions are included.

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5.9 Pressure Connector

The Pressure Connector must be one of those listed in S0095, the Part Number depends on the pressure range:

Code	Part Number(s) Required	
	≤70 bar	>70 bar
PA	227-240	Available – see module selection
PB	227-229	-
PC	227-232	-
PD	227-231	-
PE	227-241	Available – see module selection
PF	227-233	-
PG	227-253	-
PH	227-904-01	-
PJ	227-234-03	-
PK	226-365-01	-
PL	227-209-05	-
PN	DA6854-1-01	DA6854-2-01
PQ	226-361-01	-
PR	DA6855-1-01	DA6855-2-01
PS	DA6889-1-02	-
PT	226-101-01	-
PU	227-265	Available – see module selection
PV	227-251-03	Available – see module selection
PW	DA6598-1-02	-
PX	226-373-01	Available – see module selection *
PY	226-367-01	-
PZ	227-315	-
RA	DA6831-1-01	Available – see module selection **
RB	DA6826-1-01	-
RC	DA6967-1-01	-
RD	227-508-01	-
RE	226-654-01	-
RF	DA0430-1	Available – see module selection **
RJ	112M1024-1	-
RQ	226-674-01	-
RT	227-648-01	-
RU	227-387-01	-
RV	227-388-01	-
RW	226-707-01	-
P58	-	Available – see module selection ***

Notes: '-' indicates that the Pressure Connector is not available.

* The maximum working pressure for high pressure PX connector is 499.999999 bar.

** High pressure RA and RF connectors are only rated to 550 bar, and are made available for pressure ranges 70.000001 and 499.999999 bar only.

*** High pressure P58 connector is made available for pressure ranges 500 to 700 bar only.

The quantity of pressure connectors depends on the pressure type:

For differential pressure ranges, two identical pressure connectors must be used.

Pressure Type	Quantity of Pressure Connectors
gauge, absolute, sealed gauge and barometric	1
wet/wet and wet/dry differential	2

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5.10 Pressure Range

5.10.1 Pressure Units Table

The following pressure units are available:

bar		mbar		
MPa	kPa	hPa	Pa	
mH ₂ O	ftH ₂ O	inH ₂ O	cmH ₂ O	mmH ₂ O
inHg			mmHg	
psi	Torr	kg/cm ²		atm

5.10.2 Gauge – 68 mbar to 70 bar

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code	Low Range Pressure (bar)		Full Range Pressure (bar)	
	Min	Max	Min	Max
01 G	-0.149999	0.075000	0.068000	0.150000
02 G	-0.349999	0.150001	0.150000	0.350000
03 G	-0.699999	0.350001	0.350000	0.700000
04 G	-0.999999	0.700001	0.700000	1.000000
05 G	-1.035000	1.000001	1.000000	1.500000
06 G	-1.035000	1.500001	1.500000	2.000000
07 G	-1.035000	2.000001	2.000000	3.500000
08 G	-1.035000	3.500001	3.500000	5.000000
09 G	-1.035000	5.000001	5.000000	7.000000
10 G	-1.035000	7.000001	7.000000	10.000000
11 G	-1.035000	10.000001	10.000000	14.999999
12 G	-1.035000	15.000000	15.000000	24.999999
13 G	-1.035000	25.000000	25.000000	34.999999
14 G	-1.035000	35.000000	35.000000	49.999999
15 G	-1.035000	50.000000	50.000000	70.000000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure tables, see section 7.1.

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The Pressure Range Code must be selected based on the pressure tables in section 7.1.

Module selection for zero-based and positive gauge ranges:

Pressure Range Code	Hazardous Area Approval Code	Accuracy Code		A2, A3			
		A1	H6, HS	All except H6, HS	Pressure Module Type	Pressure Module Part Number	Translator PCB Part Number
01 G	MX681-005-07	DA6594-1-01	MX681-005-07	DA6594-1-01		MX681-005-07	DA6594-1-01
02 G	MX681-005-07	DA6594-1-01	MX681-005-07	DA6594-1-01		MX681-005-07	DA6594-1-01
03 G	MX681-007-07	DA6594-1-01	MX681-007-07	DA6594-1-01	LG	MX681-007-07	DA6594-1-01
04 G	MX769-05-01	DA8403-1-01	MX769-05-01	DA8403-1-01		MX769-05-01	DA8403-1-01
05 G	MX579-03-01	DA6593-1-01	MX773-07-01	DA8412-1-01		MX771-07-01	DA8403-1-01
06 G	MX579-04-01	DA6593-1-01	MX773-07-01	DA8412-1-01		MX771-07-01	DA8403-1-01
07 G	MX579-05-01	DA6593-1-01	MX773-08-01	DA8412-1-01		MX771-08-01	DA8403-1-01
08 G	MX579-07-01	DA6593-1-01	MX773-10-01	DA8412-1-01		MX771-10-01	DA8403-1-01
09 G	MX579-08-01	DA6593-1-01	MX773-10-01	DA8412-1-01		MX771-10-01	DA8403-1-01
10 G	MX579-09-01	DA6593-1-01	MX773-12-01	DA8412-1-01		MX771-12-01	DA8403-1-01
11 G	MX579-10-01	DA6593-1-01	MX773-13-01	DA8412-1-01		MX771-13-01	DA8403-1-01
12 G	MX579-11-01	DA6593-1-01	MX773-14-01	DA8412-1-01		MX771-14-01	DA8403-1-01
13 G	MX579-12-01	DA6593-1-01	MX773-14-01	DA8412-1-01		MX771-14-01	DA8403-1-01
14 G	MX579-14-01	DA6593-1-01	MX773-16-01	DA8412-1-01		MX771-16-01	DA8403-1-01
15 G	MX771-16-01	DA8403-1-01	MX771-16-01	DA8403-1-01	LG	MX771-16-01	DA8403-1-01

LG

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Module selection for negative gauge ranges:

Pressure Range Code	Pressure Module and Translator PCB Part Numbers	Pressure Module Type	Accuracy Code	
			A1	A2, A3
01 G	MX681-005-07 DA6594-1-01		MX681-005-07	DA6594-1-01
02 G	MX681-005-07 DA6594-1-01	LG	MX681-005-07	DA6594-1-01
03 G	MX681-007-07 DA6594-1-01		MX681-007-07	DA6594-1-01
04 G	MX681-02-07 DA6594-1-01		MX681-02-07	DA6594-1-01
05 G	MX579-03-01 DA6593-1-01		MX681-03-07	DA6594-1-01
06 G	MX579-04-01 DA6593-1-01		MX681-04-07	DA6594-1-01
07 G	MX579-05-01 DA6593-1-01		MX681-05-07	DA6594-1-01
08 G	MX579-07-01 DA6593-1-01		MX681-07-07	DA6594-1-01
09 G	MX579-08-01 DA6593-1-01		MX681-08-07	DA6594-1-01
10 G	MX579-09-01 DA6593-1-01	MG	MX681-09-07	DA6594-1-01
11 G	MX579-10-01 DA6593-1-01		MX681-10-07	DA6594-1-01
12 G	MX579-11-01 DA6593-1-01		MX681-11-07	DA6594-1-01
13 G	MX579-12-01 DA6593-1-01		MX681-12-07	DA6594-1-01
14 G	MX579-14-01 DA6593-1-01		MX681-14-07	DA6594-1-01
15 G	MX681-15-07 DA6594-1-01	LG	MX681-15-07	DA6594-1-01

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5.10.3

Absolute – 100 mbar to 700 bar

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code		Low Range Pressure (bar)	Full Range Pressure (bar)	Min	Max	Min	Max
01	A	0.000000	0.050000	0.100000	0.150000	0.150000	0.150000
02	A	0.000000	0.150001	0.150000	0.350000	0.350000	0.350000
03	A	0.000000	0.350001	0.350000	0.700000	0.700000	0.700000
04	A	0.000000	0.700001	0.700000	1.000000	1.000000	1.000000
05	A	0.000000	1.000001	1.000000	1.500000	1.500000	1.500000
06	A	0.000000	1.500001	1.500000	2.000000	2.000000	2.000000
07	A	0.000000	2.000001	2.000000	3.500000	3.500000	3.500000
08	A	0.000000	3.500001	3.500000	5.000000	5.000000	5.000000
09	A	0.000000	5.000001	5.000000	7.000000	7.000000	7.000000
10	A	0.000000	7.000001	7.000000	10.000000	10.000000	10.000000
11	A	0.000000	10.000001	10.000000	14.999999	14.999999	14.999999
12	A	0.000000	15.000000	15.000000	24.999999	24.999999	24.999999
13	A	0.000000	25.000000	25.000000	34.999999	34.999999	34.999999
14	A	0.000000	35.000000	35.000000	49.999999	49.999999	49.999999
15	A	0.000000	50.000000	50.000000	70.000000	70.000000	70.000000
16	A	0.000000	70.000001	70.000001	134.999999	134.999999	134.999999
17	A	0.000000	135.000000	135.000000	199.999999	199.999999	199.999999
18	A	0.000000	200.000000	200.000000	349.999999	349.999999	349.999999
20	A	0.000000	350.000000	350.000000	499.999999	499.999999	499.999999
21	A	0.000000	500.000000	500.000000	700.000000	700.000000	700.000000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure tables, see section 7.2.

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The Pressure Range Code must be selected based on the pressure tables in section 7.2.

Pressure Range Code	Accuracy Code					Pressure Module Type	
	Pressure Module and Translator PCB Part Numbers				Translator PCB Part Number		
	H6, HS	PCB Part Number	All except H6, HS	PCB Part Number			
01 A	MX680-005-07	DA6594-1-01	MX680-005-07	DA6594-1-01	MX680-005-07	DA6594-1-01	
02 A	MX680-005-07	DA6594-1-01	MX680-005-07	DA6594-1-01	MX680-005-07	DA6594-1-01	
03 A	MX680-007-07	DA6594-1-01	MX680-007-07	DA6594-1-01	MX680-007-07	DA6594-1-01	
04 A	MX770-05-01	DA8403-1-01	MX770-05-01	DA8403-1-01	MX770-05-01	DA8403-1-01	
05 A	MX580-03-01	DA6593-1-01	MX774-07-01	DA8412-1-01	MX772-07-01	DA8403-1-01	
06 A	MX580-04-01	DA6593-1-01	MX774-07-01	DA8412-1-01	MX772-07-01	DA8403-1-01	
07 A	MX580-05-01	DA6593-1-01	MX774-08-01	DA8412-1-01	MX772-08-01	DA8403-1-01	
08 A	MX580-07-01	DA6593-1-01	MX774-10-01	DA8412-1-01	MX772-10-01	DA8403-1-01	
09 A	MX580-08-01	DA6593-1-01	MX774-10-01	DA8412-1-01	MX772-10-01	DA8403-1-01	
10 A	MX580-09-01	DA6593-1-01	MX774-12-01	DA8412-1-01	MX772-12-01	DA8403-1-01	
11 A	MX580-10-01	DA6593-1-01	MX774-13-01	DA8412-1-01	MX772-13-01	DA8403-1-01	
12 A	MX580-11-01	DA6593-1-01	MX774-14-01	DA8412-1-01	MX772-14-01	DA8403-1-01	
13 A	MX580-12-01	DA6593-1-01	MX774-14-01	DA8412-1-01	MX772-14-01	DA8403-1-01	
14 A	MX580-14-01	DA6593-1-01	MX774-16-01	DA8412-1-01	MX772-16-01	DA8403-1-01	
15 A	MX772-16-01	DA8403-1-01	MX772-16-01	DA8403-1-01	MX772-16-01	DA8403-1-01	

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For pressure ranges above 70 bar, the Pressure Module Part Number depends on the Pressure Connector required:

Pressure Range Code	PA, PN, PR	PE	PU	Pressure Module Part Number			Translator PCB Part Numbers	Pressure Module Type
				PV	PX	RA	RF	P58
16 A	MX656-14-01	MX671-14-01	MX137M0473-14	MX137M0474-14	MX119M9713-14	MX765-14-01	MX766-14-01	-
17 A	MX656-15-01	MX671-15-01	MX137M0473-15	MX137M0474-15	MX119M9713-15	MX765-15-01	MX766-15-01	-
18 A	MX656-16-01	MX671-16-01	MX137M0473-16	MX137M0474-16	MX119M9713-16	MX765-16-01	MX766-16-01	-
20 A	MX656-17-01	MX671-17-01	MX137M0473-17	MX137M0474-17	MX119M9713-17	MX765-17-01	MX766-17-01	-
21 A	MX656-18-01	MX671-18-01	MX137M0473-18	MX137M0474-18	-	-	MX156M5178-18	DA6595-1-01

Note: ‘-’ indicates that the Pressure Range Code is not available.

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5.10.4

Sealed Gauge – 8.965 bar to 700 bar

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code	Low Range Pressure (bar)	Full Range Pressure (bar)	Min	Max
11 S	-1.035000	5.000000	8.965000	14.999999
12 S	-1.035000	15.000000	15.000000	24.999999
13 S	-1.035000	25.000000	25.000000	34.999999
14 S	-1.035000	35.000000	35.000000	49.999999
15 S	-1.035000	50.000000	50.000000	70.000000
16 S	-1.035000	70.000001	70.000001	134.999999
17 S	-1.035000	135.000000	135.000000	199.999999
18 S	-1.035000	200.000000	200.000000	349.999999
20 S	-1.035000	350.000000	350.000000	499.999999
21 S	-1.035000	500.000000	500.000000	700.000000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure tables, see section 7.3.

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The Pressure Range Code must be selected based on the pressure tables in section 7.3.

Pressure Range Code	Pressure Module and Translator PCB Part Numbers				Accuracy Code		A2, A3	
	Hazardous Area Approval Code		PCB Part Number	All except H6, HS	Pressure Module Type	Pressure Module Part Number	Translator PCB Part Number	Pressure Module Type
	H6, HS	PCB Part Number						
11 S	MX580-10-01	DA6593-1-01	MX774-13-01	DA8412-1-01	MX772-13-01	DA8403-1-01	LA	
12 S	MX580-11-01	DA6593-1-01	MX774-14-01	DA8412-1-01	MX772-14-01	DA8403-1-01		
13 S	MX580-12-01	DA6593-1-01	MX774-14-01	DA8412-1-01	MX772-14-01	DA8403-1-01		
14 S	MX580-14-01	DA6593-1-01	MX774-16-01	DA8412-1-01	MX772-16-01	DA8403-1-01		
15 S	MX772-16-01	DA8403-1-01	MX772-16-01	DA8403-1-01	LA	MX772-16-01	DA8403-1-01	

For pressure ranges above 70 bar, the Pressure Module Part Number depends on the Pressure Connector required:

Pressure Range Code	Pressure Module Part Number						Translator PCB Part Numbers	Pressure Module Type
	Pressure Connector Code			PX	RA	RF	P58	
PA, PN, PR	PE	PU	PV					
16 S	MX656-14-01	MX671-14-01	MX137M0473-14	MX137M0474-14	MX119M9713-14	MX765-14-01	MX766-14-01	-
17 S	MX656-15-01	MX671-15-01	MX137M0473-15	MX137M0474-15	MX119M9713-15	MX765-15-01	MX766-15-01	-
18 S	MX656-16-01	MX671-16-01	MX137M0473-16	MX137M0474-16	MX119M9713-16	MX765-16-01	MX766-16-01	-
20 S	MX656-17-01	MX671-17-01	MX137M0473-17	MX137M0474-17	MX119M9713-17	MX765-17-01	MX766-17-01	-
21 S	MX656-18-01	MX671-18-01	MX137M0473-18	MX137M0474-18	-	-	MX156M5178-18	DA6595-1-01

Note: '-' indicates that the Pressure Range Code is not available.

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5.10.5 Wet/Dry Differential – 68 mbar to 35 bar

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code	Low Range Pressure (bar)		Full Range Pressure (bar)	
	Min	Max	Min	Max
01 L	-0.149999	0.075000	0.068000	0.149999
02 L	-0.349999	0.150000	0.150000	0.349999
03 L	-0.699999	0.350000	0.350000	0.699999
04 L	-0.999999	0.700000	0.700000	0.999999
05 L	-1.499999	1.000000	1.000000	1.499999
06 L	-1.999999	1.500000	1.500000	1.999999
07 L	-3.499999	2.000000	2.000000	3.499999
08 L	-4.999999	3.500000	3.500000	4.999999
09 L	-6.999999	5.000000	5.000000	6.999999
10 L	-9.999999	7.000000	7.000000	9.999999
11 L	-14.999999	10.000000	10.000000	14.999999
12 L	-15.000000	15.000000	15.000000	24.999999
13 L	-15.000000	25.000000	25.000000	35.000000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure tables, see section 7.4.

The Pressure Range Code must be selected based on the pressure tables in section 7.4.

Pressure Range Code	Pressure Module Part Number	Translator PCB Part Numbers	Pressure Module Type
01 L	MX677-01L-01	DA6594-1-01	WD
02 L	MX677-02L-01	DA6594-1-01	
03 L	MX677-03L-01	DA6594-1-01	
04 L	MX677-04L-01	DA6594-1-01	
05 L	MX677-05L-01	DA6594-1-01	
06 L	MX677-06L-01	DA6594-1-01	
07 L	MX677-07L-01	DA6594-1-01	
08 L	MX677-08L-01	DA6594-1-01	
09 L	MX677-09L-01	DA6594-1-01	
10 L	MX677-10L-01	DA6594-1-01	
11 L	MX677-11L-01	DA6594-1-01	
12 L	MX677-12L-01	DA6594-1-01	
13 L	MX677-13L-01	DA6594-1-01	

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5.10.6 Wet/Wet Differential – 344 mbar to 35 bar

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code	Low Range Pressure (bar)		Full Range Pressure (bar)	
	Min	Max	Min	Max
03 W	-0.699999	0.350000	0.344000	0.699999
04 W	-0.999999	0.700000	0.700000	0.999999
05 W	-1.499999	1.000000	1.000000	1.499999
06 W	-1.999999	1.500000	1.500000	1.999999
07 W	-3.499999	2.000000	2.000000	3.499999
08 W	-4.999999	3.500000	3.500000	4.999999
09 W	-6.999999	5.000000	5.000000	6.999999
10 W	-9.999999	7.000000	7.000000	9.999999
11 W	-14.999999	10.000000	10.000000	14.999999
12 W	-15.000000	15.000000	15.000000	24.999999
13 W	-15.000000	25.000000	25.000000	35.000000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure tables, see section 7.5.

The Pressure Range Code must be selected based on the pressure tables in section 7.5.

Pressure Range Code	Pressure Module Part Number	Translator PCB Part Numbers	Pressure Module Type
03 W	MX642-03L-01	DA6594-1-01	WW
04 W	MX642-04L-01	DA6594-1-01	
05 W	MX642-05L-01	DA6594-1-01	
06 W	MX642-06L-01	DA6594-1-01	
07 W	MX642-07L-01	DA6594-1-01	
08 W	MX642-08L-01	DA6594-1-01	
09 W	MX642-09L-01	DA6594-1-01	
10 W	MX642-10L-01	DA6594-1-01	
11 W	MX642-11L-01	DA6594-1-01	
12 W	MX642-12L-01	DA6594-1-01	
13 W	MX642-13L-01	DA6594-1-01	

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5.10.7 Barometric

The following table describes the pressure range limits for each pressure range code.

Pressure Range Code	Low Range Pressure (bar)		Full Range Pressure (bar)	
	Min	Max	Min	Max
05 B	0.344000	0.950000	0.500000	1.300000

The complete rules for selecting the pressure range code are more complex than shown here and may disallow some ranges due to technical limitations.

For the full pressure table, see section 7.6.

The Pressure Range Code must be selected based on the pressure table in section 7.6.

Pressure Range Code	Pressure Module Part Number	Pressure Module Type	Translator PCB Part Number
05 B	MX680-008-07	LA	DA6594-1-01

Examples:

Valid	Invalid
800 to 1200 mbar	900 to 1100 mbar (span too small)
600 to 1100 mbar	800 to 1500 mbar (exceeds maximum of 1.3 bar)
	950 to 1200 mbar

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5.11 Product Marking Availability (UNIK5000 Only)

The default marking is as E-A3-5000. If China marking is required this is available with Hazardous Area Options H0 and J1 only. If China marking is selected within the configuration then this changes the drawing used on the route to the China Generic E-A3-5245 drawing.

This is applicable to UNIK5000 VC model only, the UNIK5000UK will always have UK marking.

Hazardous Area Approval Codes	Marking	Generic E-drawing
H0	Any	E-A3-5000 or E-A3-5245
J1	China Only	E-A3-5245
H1, H2, H6, HA, HS, JA, JB, JF	UK Only	E-A3-5000

5.12 Customer Specific Marking Detail

If the part number is extended with the addition of '-####' or '-#####', this refers to a customer specific E-Drawing. Parts will have separate VC models and will not form part of the datasheet model.

Valid E-drawing numbers, corresponding Customer Names and Manufacturing Plants are:

No.	Customer Name	SAP Part Numbers	UK 6210	China 7110
3273	Beijing Railway	PTX50X2-3273	N	Y
5222	Insigma	PMP50K3-5222	N	Y
5223	Insigma	PMP50K3-5223	N	Y
5224	Insigma	PMP50K3-5224	N	Y
5268	RS Components	UNIK5000-5268	Y	Y
5347	Tormatic	PTX5042-5347	N	Y
5351	Power Master Marine	PTX5042-5351	N	Y
5355	Edwards	PMP5076-5355	Y	N
5425	Siemens	PTX50R2-5425	Y	N
5486	Beijing Railway	PTX50X2-5486	N	Y
5510	Teramess	PTX5072-5510	Y	N
5528	Ametec	PDCR50X1-5528	N	Y
5535	Ermi 77	PDCR50X1-5535	N	Y
5537	Snecma	PTX50X1-5537	N	Y
5538	Snecma	PTX50X1-5538	N	Y
5599	HEJU	PTX5072-5599	N	Y
5605	NBN Elektronik	PTX5072-5605	N	Y
5659	Honeywell	PMP50X9-5659	Y	N
111M7303	Snecma	PMP50X6-111M7303	Y	N
112M2043	Kostech	PDCR50X0-112M2043	Y	N
114M2707	CAMA	PTX50X2-114M2707	N	Y
115M4395	DGA	PMP50X3-115M4395	Y	N
115M4643	DGA	PMP50X3-115M4643	Y	N
115M5771	DGA	PMP50X3-115M5771	Y	N
117M1031	Parker	PMP50X9-117M1031	N	Y
122M6578	Phoenix	PMP50X4-122M6578	N	Y
123M6843	Xidun	PTX5072-123M6843	N	Y
126M6522	Beijing Railway	PTX50X2-126M6522	N	Y
131M5183	WellAware	PMP50N5-131M5183	N	Y
134M6667	Tianjin Viatech	PTX5072-134M6667	N	Y
154M6690	TNMA	PTX5072-154M6690	N	Y

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6**OPTIONS****6.1****Shunt-Cal**

Availability depends on the Electrical Connector and Electronics Option. Where it is available, it is fitted as standard.

Electronics Option Codes	Shunt-Cal Available?
0, 1, 8, 9	Yes
2, 3, 4, 5, 6, 7	No

Electrical Connector Codes	Shunt-Cal Available?
0, 1, 2, 3, 4, 6, A, C, E, F, K, N	Yes
7, D, G, R	No

6.2**UKAS Calibration**

This is optional, specify on works order if required and raise separate line item for UKAS.

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FULL PRESSURE TABLES

Pressure range should be specified as '[Low Pressure] to [High Pressure] [units] [ref]'

If '[Low Pressure] to' is omitted, [Low Pressure] should be assumed to be 0.

Span = High Pressure – Low Pressure

Ratio = Low Pressure / Span

Gauge Ranges

Gauge	Core Range (bar)		Ratio		Low Pressure (bar)		High Pressure (bar)		Span (bar)		Pressure Range Code
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
0 to +x Zero-based ranges	0.150	0.000000	0.000000	0.000000	0.000000	0.068000	0.149999	0.068000	0.149999	0.068000	01 G
	0.350	0.000000	0.000000	0.000000	0.000000	0.150000	0.349999	0.150000	0.349999	0.150000	02 G
	0.700	0.000000	0.000000	0.000000	0.000000	0.350000	0.699999	0.350000	0.699999	0.350000	03 G
	1.000	0.000000	0.000000	0.000000	0.000000	0.700000	0.999999	0.700000	0.999999	0.700000	04 G
	1.500	0.000000	0.000000	0.000000	0.000000	1.000000	1.499999	1.000000	1.499999	1.000000	05 G
	2.000	0.000000	0.000000	0.000000	0.000000	1.500000	1.999999	1.500000	1.999999	1.500000	06 G
	3.500	0.000000	0.000000	0.000000	0.000000	2.000000	3.499999	2.000000	3.499999	2.000000	07 G
	5.000	0.000000	0.000000	0.000000	0.000000	3.500000	4.999999	3.500000	4.999999	3.500000	08 G
	7.000	0.000000	0.000000	0.000000	0.000000	5.000000	6.999999	5.000000	6.999999	5.000000	09 G
	10.000	0.000000	0.000000	0.000000	0.000000	7.000000	9.999999	7.000000	9.999999	7.000000	10 G
-x to 0 Depression ranges	15.000	0.000000	0.000000	0.000000	0.000000	10.000000	14.999999	10.000000	14.999999	10.000000	11 G
	25.000	0.000000	0.000000	0.000000	0.000000	15.000000	24.999999	15.000000	24.999999	15.000000	12 G
	35.000	0.000000	0.000000	0.000000	0.000000	25.000000	34.999999	25.000000	34.999999	25.000000	13 G
	50.000	0.000000	0.000000	0.000000	0.000000	35.000000	49.999999	35.000000	49.999999	35.000000	14 G
	70.000	0.000000	0.000000	0.000000	0.000000	50.000000	70.000000	50.000000	70.000000	50.000000	15 G
	0.150	-1.000000	-1.000000	-0.149999	-0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	01 G
	0.350	-1.000000	-1.000000	-0.349999	-0.150000	0.000000	0.000000	0.000000	0.000000	0.000000	02 G
	0.700	-1.000000	-1.000000	-0.699999	-0.350000	0.000000	0.000000	0.000000	0.000000	0.000000	03 G
	1.000	-1.000000	-1.000000	-0.999999	-0.700000	0.000000	0.000000	0.000000	0.000000	0.000000	04 G
	1.500	-1.000000	-1.000000	-1.035000	-1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	05 G

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Gauge	Core Range (bar)		Ratio		Low Pressure (bar)		High Pressure (bar)		Span (bar)		Pressure Range Code
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
<i>+x to +y Offset ranges</i>											
0.150	0.000001	1.000000	0.000001	0.075000	0.068000	0.150000	0.068000	0.149999	0.149999	0.149999	01 G
0.350	0.000001	1.000000	0.000001	0.150001	0.150001	0.350000	0.075000	0.349999	0.349999	0.349999	02 G
0.700	0.000001	1.000000	0.000001	0.350001	0.350001	0.700000	0.175000	0.699999	0.699999	0.699999	03 G
1.000	0.000001	1.000000	0.000001	0.700001	0.700001	1.000000	0.350000	0.999999	0.999999	0.999999	04 G
1.500	0.000001	1.000000	0.000001	1.000001	1.000001	1.500000	0.500000	1.499999	1.499999	1.499999	05 G
2.000	0.000001	1.000000	0.000001	1.500001	1.500001	2.000000	0.750000	1.999999	1.999999	1.999999	06 G
3.500	0.000001	1.000000	0.000001	2.000001	2.000001	3.500000	1.000000	3.499999	3.499999	3.499999	07 G
5.000	0.000001	1.000000	0.000001	3.500001	3.500001	5.000000	1.750000	4.999999	4.999999	4.999999	08 G
7.000	0.000001	1.000000	0.000001	5.000001	5.000001	7.000000	2.500000	6.999999	6.999999	6.999999	09 G
10.000	0.000001	1.000000	0.000001	7.000001	7.000001	10.000000	3.500000	9.999999	9.999999	9.999999	10 G
15.000	0.000001	1.000000	0.000001	10.000001	10.000001	14.999999	5.000000	14.999999	14.999999	14.999999	11 G
25.000	0.000001	1.000000	0.000001	15.000000	15.000000	24.999999	7.500000	24.999999	24.999999	24.999999	12 G
35.000	0.000001	1.000000	0.000001	25.000000	25.000000	34.999999	12.500000	34.999999	34.999999	34.999999	13 G
50.000	0.000001	1.000000	0.000001	35.000000	35.000000	49.999999	17.500000	49.999999	49.999999	49.999999	14 G
70.000	0.000001	1.000000	0.000001	50.000000	50.000000	70.000000	25.000000	69.999999	69.999999	69.999999	15 G
<i>-x to +y (x > y) Bi-directional ranges</i>											
0.150	-0.500001	-0.149999	-0.000001	0.149999	-0.000001	0.149999	0.068000	0.299998	0.299998	0.299998	01 G
0.350	-1.000000	-0.500001	-0.349999	-0.150000	0.000001	0.349999	0.150000	0.699998	0.699998	0.699998	02 G
0.700	-1.000000	-0.500001	-0.699999	-0.350000	0.000001	0.699999	0.350000	1.399998	1.399998	1.399998	03 G
1.000	-1.000000	-0.500001	-0.999999	-0.700000	0.000001	0.999999	0.700000	1.999998	1.999998	1.999998	04 G
1.500	-1.000000	-0.500001	-1.035000	-1.000000	0.000001	1.499999	1.000000	2.534999	2.534999	2.534999	05 G

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Gauge	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span (bar)		Pressure Range Code	
		Min	Max	Min	Max	Min	Max	Min	Max		
-x to +y ($ x \leq y $)	0.150	-0.500000	-0.000001	-0.149999	-0.000001	0.149999	0.068000	0.299998	0.1	G	
Bi-directional ranges	0.350	-0.500000	-0.000001	-0.349999	-0.000001	0.150000	0.349999	0.699998	0.2	G	
	0.700	-0.500000	-0.000001	-0.699999	-0.000001	0.350000	0.699999	0.350000	1.399998	0.3	G
	1.000	-0.500000	-0.000001	-0.999999	-0.000001	0.700000	0.999999	0.700000	1.999998	0.4	G
	1.500	-0.500000	-0.000001	-1.035000	-0.000001	1.000000	1.499999	1.000000	2.534999	0.5	G
	2.000	-0.500000	-0.000001	-1.035000	-0.000001	1.500000	1.999999	1.500000	3.034999	0.6	G
	3.500	-0.500000	-0.000001	-1.035000	-0.000001	2.000000	3.499999	2.000000	4.534999	0.7	G
	5.000	-0.500000	-0.000001	-1.035000	-0.000001	3.500000	4.999999	3.500000	6.034999	0.8	G
	7.000	-0.500000	-0.000001	-1.035000	-0.000001	5.000000	6.999999	5.000000	8.034999	0.9	G
	10.000	-0.500000	-0.000001	-1.035000	-0.000001	7.000000	9.999999	7.000000	11.034999	1.0	G
	15.000	-0.500000	-0.000001	-1.035000	-0.000001	10.000000	14.999999	10.000000	16.034999	1.1	G
	25.000	-0.500000	-0.000001	-1.035000	-0.000001	15.000000	24.999999	15.000000	26.034999	1.2	G
	35.000	-0.500000	-0.000001	-1.035000	-0.000001	25.000000	34.999999	25.000000	36.034999	1.3	G
	50.000	-0.500000	-0.000001	-1.035000	-0.000001	35.000000	49.999999	35.000000	51.034999	1.4	G
	70.000	-0.500000	-0.000001	-1.035000	-0.000001	50.000000	70.000000	50.000000	71.035000	1.5	G

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7.2 Absolute Ranges

Absolute	Core Range (bar)	Ratio				Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
0 to +x	0.150	0.000000	0.000000	0.000000	0.000000	0.100000	0.149999	0.100000	0.149999	0.100000	0.149999	01 A
Zero-based ranges	0.350	0.000000	0.000000	0.000000	0.000000	0.150000	0.349999	0.150000	0.349999	0.150000	0.349999	02 A
	0.700	0.000000	0.000000	0.000000	0.000000	0.350000	0.699999	0.350000	0.699999	0.350000	0.699999	03 A
	1.000	0.000000	0.000000	0.000000	0.000000	0.700000	0.999999	0.700000	0.999999	0.700000	0.999999	04 A
	1.500	0.000000	0.000000	0.000000	0.000000	1.000000	1.499999	1.000000	1.499999	1.000000	1.499999	05 A
	2.000	0.000000	0.000000	0.000000	0.000000	1.500000	1.999999	1.500000	1.999999	1.500000	1.999999	06 A
	3.500	0.000000	0.000000	0.000000	0.000000	2.000000	3.499999	2.000000	3.499999	2.000000	3.499999	07 A
	5.000	0.000000	0.000000	0.000000	0.000000	3.500000	4.999999	3.500000	4.999999	3.500000	4.999999	08 A
	7.000	0.000000	0.000000	0.000000	0.000000	5.000000	6.999999	5.000000	6.999999	5.000000	6.999999	09 A
	10.000	0.000000	0.000000	0.000000	0.000000	7.000000	9.999999	7.000000	9.999999	7.000000	9.999999	10 A
	15.000	0.000000	0.000000	0.000000	0.000000	10.000000	14.999999	10.000000	14.999999	10.000000	14.999999	11 A
	25.000	0.000000	0.000000	0.000000	0.000000	15.000000	24.999999	15.000000	24.999999	15.000000	24.999999	12 A
	35.000	0.000000	0.000000	0.000000	0.000000	25.000000	34.999999	25.000000	34.999999	25.000000	34.999999	13 A
	50.000	0.000000	0.000000	0.000000	0.000000	35.000000	49.999999	35.000000	49.999999	35.000000	49.999999	14 A
	70.000	0.000000	0.000000	0.000000	0.000000	50.000000	70.000000	50.000000	70.000000	50.000000	70.000000	15 A
	135.000	0.000000	0.000000	0.000000	0.000000	70.000001	134.999999	70.000001	134.999999	70.000001	134.999999	16 A
	200.000	0.000000	0.000000	0.000000	0.000000	135.000000	199.999999	135.000000	199.999999	135.000000	199.999999	17 A
	350.000	0.000000	0.000000	0.000000	0.000000	200.000000	349.999999	200.000000	349.999999	200.000000	349.999999	18 A
	500.000	0.000000	0.000000	0.000000	0.000000	350.000000	499.999999	350.000000	499.999999	350.000000	499.999999	20 A
	700.000	0.000000	0.000000	0.000000	0.000000	500.000000	700.000000	500.000000	700.000000	500.000000	700.000000	21 A

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Absolute	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
+x to +y Offset ranges	0.150	0.000001	1.000000	0.000001	0.050000	0.100000	0.150000	0.100000	0.150000	01 A
	0.350	0.000001	1.000000	0.000001	0.150001	0.350000	0.350000	0.075000	0.350000	02 A
	0.700	0.000001	1.000000	0.000001	0.350001	0.700000	0.175000	0.700000	0.700000	03 A
	1.000	0.000001	1.000000	0.000001	0.700001	1.000000	0.350000	1.000000	1.000000	04 A
	1.500	0.000001	1.000000	0.000001	1.000001	1.500000	0.500000	1.500000	1.500000	05 A
	2.000	0.000001	1.000000	0.000001	1.500001	2.000000	0.750000	2.000000	2.000000	06 A
	3.500	0.000001	1.000000	0.000001	2.000001	3.500000	1.000000	3.500000	3.500000	07 A
	5.000	0.000001	1.000000	0.000001	3.500001	5.000000	1.750000	5.000000	5.000000	08 A
	7.000	0.000001	1.000000	0.000001	5.000001	7.000000	2.500000	7.000000	7.000000	09 A
	10.000	0.000001	1.000000	0.000001	7.000001	10.000000	3.500000	10.000000	10.000000	10 A
	15.000	0.000001	1.000000	0.000001	10.000001	14.999999	5.000000	14.999999	14.999999	11 A
	25.000	0.000001	1.000000	0.000001	15.000000	24.999999	7.500000	24.999999	24.999999	12 A
	35.000	0.000001	1.000000	0.000001	25.000000	34.999999	12.500000	34.999999	34.999999	13 A
	50.000	0.000001	1.000000	0.000001	35.000000	49.999999	17.500000	49.999999	49.999999	14 A
	70.000	0.000001	1.000000	0.000001	50.000000	70.000000	25.000000	70.000000	70.000000	15 A
	135.000	0.000001	1.000000	0.000001	70.000001	134.999999	35.000000	134.999999	134.999999	16 A
	200.000	0.000001	1.000000	0.000001	135.000000	199.999999	67.500000	199.999999	199.999999	17 A
	350.000	0.000001	1.000000	0.000001	200.000000	349.999999	100.000000	349.999999	349.999999	18 A
	500.000	0.000001	1.000000	0.000001	350.000000	499.999999	175.000000	499.999999	499.999999	20 A
	700.000	0.000001	1.000000	0.000001	500.000000	700.000000	250.000000	700.000000	700.000000	21 A

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7.3 Sealed Gauge Ranges

Sealed Gauge	Core Range (bar)	Ratio	Low Pressure (bar)		High Pressure (bar)		Span (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max		
0 to +x Zero-based ranges	15.000	0.000000	0.000000	0.000000	10.000000	14.999999	10.000000	14.999999	11 S
	25.000	0.000000	0.000000	0.000000	15.000000	24.999999	15.000000	24.999999	12 S
	35.000	0.000000	0.000000	0.000000	25.000000	34.999999	25.000000	34.999999	13 S
	50.000	0.000000	0.000000	0.000000	35.000000	49.999999	35.000000	49.999999	14 S
	70.000	0.000000	0.000000	0.000000	50.000000	70.000000	50.000000	70.000000	15 S
	135.000	0.000000	0.000000	0.000000	70.000001	134.999999	70.000001	134.999999	16 S
	200.000	0.000000	0.000000	0.000000	135.000000	199.999999	135.000000	199.999999	17 S
	350.000	0.000000	0.000000	0.000000	200.000000	349.999999	200.000000	349.999999	18 S
	500.000	0.000000	0.000000	0.000000	350.000000	499.999999	350.000000	499.999999	20 S
	700.000	0.000000	0.000000	0.000000	500.000000	700.000000	500.000000	700.000000	21 S
-x to +y Bi-directional ranges	15.000	-0.200000	-0.000001	-1.035000	0.000000	8.965000	14.999999	10.000000	16.034999 11 S
	25.000	-0.200000	-0.000001	-1.035000	0.000000	15.000000	24.999999	15.000000	26.034999 12 S
	35.000	-0.200000	-0.000001	-1.035000	0.000000	25.000000	34.999999	25.000000	36.034999 13 S
	50.000	-0.200000	-0.000001	-1.035000	0.000000	35.000000	49.999999	35.000000	51.034999 14 S
	70.000	-0.200000	-0.000001	-1.035000	0.000000	50.000000	70.000000	50.000000	71.035000 15 S
	135.000	-0.200000	-0.000001	-1.035000	0.000000	70.000001	134.999999	70.000001	136.034999 16 S
	200.000	-0.200000	-0.000001	-1.035000	0.000000	135.000000	199.999999	135.000000	201.034999 17 S
	350.000	-0.200000	-0.000001	-1.035000	0.000000	200.000000	349.999999	200.000000	351.034999 18 S
	500.000	-0.200000	-0.000001	-1.035000	0.000000	350.000000	499.999999	350.000000	501.034999 20 S
	700.000	-0.200000	-0.000001	-1.035000	0.000000	500.000000	700.000000	500.000000	701.035000 21 S

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Sealed Gauge	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
+x to +y Offset ranges	15.000	0.000001	1.000000	0.000001	5.000000	10.000000	14.999999	10.000000	14.999999	11 S
	25.000	0.000001	1.000000	0.000001	15.000000	20.000000	24.999999	10.000000	24.999999	12 S
	35.000	0.000001	1.000000	0.000001	25.000000	30.000000	34.999999	12.500000	34.999999	13 S
	50.000	0.000001	1.000000	0.000001	35.000000	40.000000	49.999999	17.500000	49.999999	14 S
	70.000	0.000001	1.000000	0.000001	50.000000	60.000000	70.000000	25.000000	70.000000	15 S
	135.000	0.000001	1.000000	0.000001	70.000001	100.000001	134.999999	35.000001	134.999999	16 S
	200.000	0.000001	1.000000	0.000001	135.000000	165.000000	199.999999	67.500000	199.999999	17 S
	350.000	0.000001	1.000000	0.000001	200.000000	230.000000	349.999999	100.000000	349.999999	18 S
	500.000	0.000001	1.000000	0.000001	350.000000	400.000000	499.999999	175.000000	499.999999	20 S
	700.000	0.000001	1.000000	0.000001	500.000000	600.000000	700.000000	250.000000	700.000000	21 S

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7.4 Wet/Dry Differential Ranges

Wet/Dry Diff	Core Range (bar)		Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
0 to +x	0.150	0.000000	0.000000	0.000000	0.068000	0.149999	0.068000	0.149999	0.149999	0.149999	01 L
Zero-based ranges	0.350	0.000000	0.000000	0.000000	0.150000	0.349999	0.150000	0.349999	0.349999	0.349999	02 L
0.700	0.000000	0.000000	0.000000	0.000000	0.350000	0.699999	0.350000	0.699999	0.699999	0.699999	03 L
1.000	0.000000	0.000000	0.000000	0.000000	0.700000	0.999999	0.700000	0.999999	0.999999	0.999999	04 L
1.500	0.000000	0.000000	0.000000	0.000000	1.000000	1.499999	1.000000	1.499999	1.499999	1.499999	05 L
2.000	0.000000	0.000000	0.000000	0.000000	1.500000	1.999999	1.500000	1.999999	1.999999	1.999999	06 L
3.500	0.000000	0.000000	0.000000	0.000000	2.000000	3.499999	2.000000	3.499999	3.499999	3.499999	07 L
5.000	0.000000	0.000000	0.000000	0.000000	3.500000	4.999999	3.500000	4.999999	4.999999	4.999999	08 L
7.000	0.000000	0.000000	0.000000	0.000000	5.000000	6.999999	5.000000	6.999999	6.999999	6.999999	09 L
10.000	0.000000	0.000000	0.000000	0.000000	7.000000	9.999999	7.000000	9.999999	9.999999	9.999999	10 L
15.000	0.000000	0.000000	0.000000	0.000000	10.000000	14.999999	10.000000	14.999999	14.999999	14.999999	11 L
25.000	0.000000	0.000000	0.000000	0.000000	15.000000	24.999999	15.000000	24.999999	24.999999	24.999999	12 L
35.000	0.000000	0.000000	0.000000	0.000000	25.000000	35.000000	25.000000	35.000000	35.000000	35.000000	13 L
-x to 0	0.150	-1.000000	-1.000000	-0.149999	-0.000001	0.000000	0.000000	0.000000	0.068000	0.149999	01 L
Depression ranges	0.350	-1.000000	-1.000000	-0.349999	-0.150000	0.000000	0.000000	0.000000	0.150000	0.349999	02 L
0.700	-1.000000	-1.000000	-0.699999	-0.350000	0.000000	0.000000	0.000000	0.350000	0.350000	0.699999	03 L
1.000	-1.000000	-1.000000	-0.999999	-0.700000	0.000000	0.000000	0.000000	0.700000	0.700000	0.999999	04 L
1.500	-1.000000	-1.000000	-1.499999	-1.000000	0.000000	0.000000	0.000000	1.000000	1.000000	1.499999	05 L
2.000	-1.000000	-1.000000	-1.999999	-1.500000	0.000000	0.000000	0.000000	1.500000	1.500000	1.999999	06 L
3.500	-1.000000	-1.000000	-3.499999	-2.000000	0.000000	0.000000	0.000000	2.000000	2.000000	3.499999	07 L
5.000	-1.000000	-1.000000	-4.999999	-3.500000	0.000000	0.000000	0.000000	3.500000	3.500000	4.999999	08 L
7.000	-1.000000	-1.000000	-6.999999	-5.000000	0.000000	0.000000	0.000000	5.000000	5.000000	6.999999	09 L
10.000	-1.000000	-1.000000	-9.999999	-7.000000	0.000000	0.000000	0.000000	7.000000	7.000000	9.999999	10 L
15.000	-1.000000	-1.000000	-14.999999	-10.000000	0.000000	0.000000	0.000000	10.000000	10.000000	14.999999	11 L
25.000	-1.000000	-1.000000	-15.000000	-15.000000	0.000000	0.000000	0.000000	15.000000	15.000000	15.000000	12 L

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	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
+x to +y	0.150	0.0000001	1.000000	0.000001	0.075000	0.068000	0.149999	0.068000	0.149999	0.068000	01 L
Offset ranges	0.350	0.000001	1.000000	0.000001	0.150000	0.150000	0.349999	0.150000	0.349999	0.150000	02 L
0.700	0.000001	1.000000	0.000001	0.350000	0.350000	0.699999	0.350000	0.699999	0.350000	0.699999	03 L
1.000	0.000001	1.000000	0.000001	0.700000	0.700000	0.999999	0.700000	0.999999	0.700000	0.999999	04 L
1.500	0.000001	1.000000	0.000001	1.000000	1.000000	1.499999	1.000000	1.499999	1.000000	1.499999	05 L
2.000	0.000001	1.000000	0.000001	1.500000	1.500000	1.999999	1.500000	1.999999	1.500000	1.999999	06 L
3.500	0.000001	1.000000	0.000001	2.000000	2.000000	3.499999	2.000000	3.499999	2.000000	3.499999	07 L
5.000	0.000001	1.000000	0.000001	3.500000	3.500000	4.999999	3.500000	4.999999	3.500000	4.999999	08 L
7.000	0.000001	1.000000	0.000001	5.000000	5.000000	6.999999	5.000000	6.999999	5.000000	6.999999	09 L
10.000	0.000001	1.000000	0.000001	7.000000	7.000000	9.999999	7.000000	9.999999	7.000000	9.999999	10 L
15.000	0.000001	1.000000	0.000001	10.000000	10.000000	14.999999	10.000000	14.999999	10.000000	14.999999	11 L
25.000	0.000001	1.000000	0.000001	15.000000	15.000000	24.999999	15.000000	24.999999	15.000000	24.999999	12 L
35.000	0.000001	1.000000	0.000001	25.000000	25.000000	35.000000	25.000000	35.000000	25.000000	34.999999	13 L
-x to +y ($ x > y $)	0.150	-1.000000	-0.500001	-0.149999	-0.000001	0.000001	0.149999	0.000001	0.149999	0.000001	0.149999
Bi-directional ranges	0.350	-1.000000	-0.500001	-0.349999	-0.150000	0.000001	0.349999	0.150000	0.349999	0.150000	0.349999
0.700	-1.000000	-0.500001	-0.699999	-0.350000	-0.000001	0.699999	0.350000	0.699999	0.350000	0.699999	02 L
1.000	-1.000000	-0.500001	-0.999999	-0.700000	0.000001	0.999999	0.700000	0.999999	0.700000	0.999999	03 L
1.500	-1.000000	-0.500001	-1.499999	-1.000000	0.000001	1.499999	1.000000	1.499999	1.000000	1.499999	04 L
2.000	-1.000000	-0.500001	-1.999999	-1.500000	0.000001	1.999999	1.500000	1.999999	1.500000	1.999999	05 L
3.500	-1.000000	-0.500001	-3.499999	-2.000000	0.000001	3.499999	2.000000	3.499999	2.000000	3.499999	07 L
5.000	-1.000000	-0.500001	-4.999999	-3.500000	0.000001	4.999999	3.500000	4.999999	3.500000	4.999999	08 L
7.000	-1.000000	-0.500001	-6.999999	-5.000000	0.000001	6.999999	5.000000	6.999999	5.000000	6.999999	09 L
10.000	-1.000000	-0.500001	-9.999999	-7.000000	0.000001	9.999999	7.000000	9.999999	7.000000	9.999999	10 L
15.000	-1.000000	-0.500001	-14.999999	-10.000000	0.000001	14.999999	10.000000	14.999999	10.000000	14.999999	11 L
25.000	-1.000000	-0.500001	-15.000000	-15.000000	0.000001	24.999999	15.000000	24.999999	15.000000	24.999999	12 L

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Wet/Dry Diff	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
-x to +y ($ x \leq y $) Bi-directional ranges	0.150	-0.500000	-0.000001	-0.149999	-0.000001	0.149999	0.068000	0.2999998	0.1	L
	0.350	-0.500000	-0.000001	-0.349999	-0.000001	0.150000	0.349999	0.150000	0.6999998	02 L
	0.700	-0.500000	-0.000001	-0.699999	-0.000001	0.350000	0.699999	0.350000	1.3999998	03 L
	1.000	-0.500000	-0.000001	-0.999999	-0.000001	0.700000	0.999999	0.700000	1.9999998	04 L
	1.500	-0.500000	-0.000001	-1.499999	-0.000001	1.000000	1.499999	1.000000	2.9999998	05 L
	2.000	-0.500000	-0.000001	-1.999999	-0.000001	1.500000	1.999999	1.500000	3.9999998	06 L
	3.500	-0.500000	-0.000001	-3.499999	-0.000001	2.000000	3.499999	2.000000	6.9999998	07 L
	5.000	-0.500000	-0.000001	-4.999999	-0.000001	3.500000	4.999999	3.500000	9.9999998	08 L
	7.000	-0.500000	-0.000001	-6.999999	-0.000001	5.000000	6.999999	5.000000	13.9999998	09 L
	10.000	-0.500000	-0.000001	-9.999999	-0.000001	7.000000	9.999999	7.000000	19.9999998	10 L
	15.000	-0.500000	-0.000001	-14.999999	-0.000001	10.000000	14.999999	10.000000	29.9999998	11 L
	25.000	-0.500000	-0.000001	-15.000000	-0.000001	15.000000	24.999999	15.000000	39.999999	12 L
	35.000	-0.500000	-0.000001	-15.000000	-0.000001	25.000000	35.000000	25.000000	50.000000	13 L

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7.5 Wet/Wet Differential Ranges

Wet/Wet Diff	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code	
		Min	Max	Min	Max	Min	Max	Min	Max		
0 to +x	0.700	0.000000	0.000000	0.000000	0.344000	0.699999	0.344000	0.699999	0.3	W	
Zero-based ranges	1.000	0.000000	0.000000	0.000000	0.700000	0.999999	0.700000	0.999999	0.4	W	
1.500	0.000000	0.000000	0.000000	0.000000	1.000000	1.499999	1.000000	1.499999	0.5	W	
2.000	0.000000	0.000000	0.000000	0.000000	1.500000	1.999999	1.500000	1.999999	0.6	W	
3.500	0.000000	0.000000	0.000000	0.000000	2.000000	3.499999	2.000000	3.499999	0.7	W	
5.000	0.000000	0.000000	0.000000	0.000000	3.500000	4.999999	3.500000	4.999999	0.8	W	
7.000	0.000000	0.000000	0.000000	0.000000	5.000000	6.999999	5.000000	6.999999	0.9	W	
10.000	0.000000	0.000000	0.000000	0.000000	7.000000	9.999999	7.000000	9.999999	1.0	W	
15.000	0.000000	0.000000	0.000000	0.000000	10.000000	14.999999	10.000000	14.999999	1.1	W	
25.000	0.000000	0.000000	0.000000	0.000000	15.000000	24.999999	15.000000	24.999999	1.2	W	
35.000	0.000000	0.000000	0.000000	0.000000	25.000000	35.000000	25.000000	35.000000	1.3	W	
-x to 0	0.700	-1.000000	-1.000000	-0.699999	-0.000001	0.000000	0.000000	0.344000	0.699999	0.3	W
Depression ranges	1.000	-1.000000	-1.000000	-0.999999	-0.700000	0.000000	0.000000	0.700000	0.999999	0.4	W
1.500	-1.000000	-1.000000	-1.000000	-1.499999	-1.000000	0.000000	0.000000	1.000000	1.499999	0.5	W
2.000	-1.000000	-1.000000	-1.000000	-1.999999	-1.500000	0.000000	0.000000	1.500000	1.999999	0.6	W
3.500	-1.000000	-1.000000	-1.000000	-3.499999	-2.000000	0.000000	0.000000	2.000000	3.499999	0.7	W
5.000	-1.000000	-1.000000	-1.000000	-4.999999	-3.500000	0.000000	0.000000	3.500000	4.999999	0.8	W
7.000	-1.000000	-1.000000	-1.000000	-6.999999	-5.000000	0.000000	0.000000	5.000000	6.999999	0.9	W
10.000	-1.000000	-1.000000	-1.000000	-9.999999	-7.000000	0.000000	0.000000	7.000000	9.999999	1.0	W
15.000	-1.000000	-1.000000	-1.000000	-14.999999	-10.000000	0.000000	0.000000	10.000000	14.999999	1.1	W
25.000	-1.000000	-1.000000	-1.000000	-15.000000	-15.000000	0.000000	0.000000	15.000000	15.000000	1.2	W

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Wet/Wet Diff	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
+x to +y Offset ranges	0.700	0.000001	1.000000	0.000001	0.350000	0.344000	0.699999	0.344000	0.699999	03 W
	1.000	0.000001	1.000000	0.000001	0.700000	0.700000	0.999999	0.700000	0.999999	04 W
	1.500	0.000001	1.000000	0.000001	1.000000	1.000000	1.499999	1.000000	1.499999	05 W
	2.000	0.000001	1.000000	0.000001	1.500000	1.500000	1.999999	1.500000	1.999999	06 W
	3.500	0.000001	1.000000	0.000001	2.000000	2.000000	3.499999	2.000000	3.499999	07 W
	5.000	0.000001	1.000000	0.000001	3.500000	3.500000	4.999999	3.500000	4.999999	08 W
	7.000	0.000001	1.000000	0.000001	5.000000	5.000000	6.999999	5.000000	6.999999	09 W
	10.000	0.000001	1.000000	0.000001	7.000000	7.000000	9.999999	7.000000	9.999999	10 W
	15.000	0.000001	1.000000	0.000001	10.000000	10.000000	14.999999	10.000000	14.999999	11 W
	25.000	0.000001	1.000000	0.000001	15.000000	15.000000	24.999999	15.000000	24.999999	12 W
-x to +y ($ x > y $) Bi-directional ranges	35.000	0.000001	1.000000	0.000001	25.000000	25.000000	35.000000	25.000000	34.999999	13 W
	0.700	-1.000000	-0.500001	-0.699999	-0.000001	0.000001	0.699999	0.344000	1.399998	03 W
	1.000	-1.000000	-0.500001	-0.999999	-0.700000	0.000001	0.999999	0.700000	1.999998	04 W
	1.500	-1.000000	-0.500001	-1.499999	-1.000000	0.000001	1.499999	1.000000	2.999998	05 W
	2.000	-1.000000	-0.500001	-1.999999	-1.500000	0.000001	1.999999	1.500000	3.999998	06 W
	3.500	-1.000000	-0.500001	-3.499999	-2.000000	0.000001	3.499999	2.000000	6.999998	07 W
	5.000	-1.000000	-0.500001	-4.999999	-3.500000	0.000001	4.999999	3.500000	9.999998	08 W
	7.000	-1.000000	-0.500001	-6.999999	-5.000000	0.000001	6.999999	5.000000	13.999998	09 W
	10.000	-1.000000	-0.500001	-9.999999	-7.000000	0.000001	9.999999	7.000000	19.999998	10 W
	15.000	-1.000000	-0.500001	-14.999999	-10.000000	0.000001	14.999999	10.000000	29.999998	11 W
	25.000	-1.000000	-0.500001	-15.000000	-15.000000	0.000001	24.999999	15.000000	39.999999	12 W

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Wet/Wet Diff	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
$-x \text{ to } +y \ (x \leq y)$										
Bi-directional ranges	0.700	-0.500000	-0.000001	-0.699999	-0.000001	0.699999	0.000001	0.344000	1.399998	03 W
	1.000	-0.500000	-0.000001	-0.999999	-0.000001	0.700000	0.999999	0.700000	1.999998	04 W
	1.500	-0.500000	-0.000001	-1.499999	-0.000001	1.000000	1.499999	1.000000	2.999998	05 W
	2.000	-0.500000	-0.000001	-1.999999	-0.000001	1.500000	1.999999	1.500000	3.999998	06 W
	3.500	-0.500000	-0.000001	-3.499999	-0.000001	2.000000	3.499999	2.000000	6.999998	07 W
	5.000	-0.500000	-0.000001	-4.999999	-0.000001	3.500000	4.999999	3.500000	9.999998	08 W
	7.000	-0.500000	-0.000001	-6.999999	-0.000001	5.000000	6.999999	5.000000	13.999998	09 W
	10.000	-0.500000	-0.000001	-9.999999	-0.000001	7.000000	9.999999	7.000000	19.999998	10 W
	15.000	-0.500000	-0.000001	-14.999999	-0.000001	10.000000	14.999999	10.000000	29.999998	11 W
	25.000	-0.500000	-0.000001	-15.000000	-0.000001	15.000000	24.999999	15.000000	39.999999	12 W
	35.000	-0.500000	-0.000001	-15.000000	-0.000001	25.000000	35.000000	25.000000	50.000000	13 W

7.6 Barometric Ranges

Barometric	Core Range (bar)	Ratio		Low Pressure (bar)		High Pressure (bar)		Span Pressure (bar)		Pressure Range Code
		Min	Max	Min	Max	Min	Max	Min	Max	
$+x \text{ to } +y$										
	1.300	0.000001	2.762000	0.344000	0.950000	0.500000	1.300000	0.344000	0.956000	05 B

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