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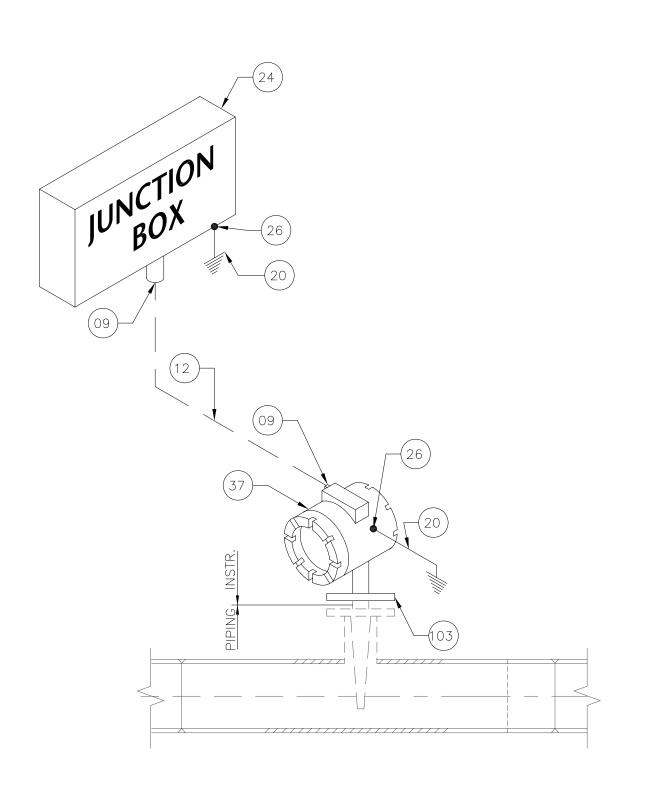
Dwg. No.

14-0162

0162-ILT-6201

A4,

DOT-MATRIX)



	MATERIAL FOR INSTALLATION	
S.No	DESCRIPTION	QTY
09	EExd/e IIC CABLE GLAND WITH BLACK SHROUD M20x1.5mm ²	_
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	_
24	JUNCTION BOX	-
103	316 SS THERMOWELL ANSI FLANGE	01 Nos
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	5 Mtr.
26	EARTHING LUGS FOR 4mm ² CABLE	02 Nos
37	TEMPERATURE TRANSMITTER	01 Nos

S.NO.	TAGS	P & ID Nos.
1	40-TT-15	E-3588-4005B-D2
2	801-TT-15	2310-PB-2116
3	801-TT-16	2310-PB-2116
4	60-TT-029	2310-PB-2111
5	TT-7-1	0180-A1-13
6	TT-7-2	0180-A1-13
7	TT-7-7	0180-A1-13
8	TT-7-11	0180-A1-14
9	TT-715	0180-A1-15
10	120-TT-01	2310-PB-2052 (SH 1 OF 2)
11	120-TT-02	2310-PB-2052 (SH 1 OF 2)
12	120-TT-03	2310-PB-2052 (SH 1 OF 2)
13	120-TT-04	2310-PB-2052 (SH 1 OF 2)
14	120-TT-05	2310-PB-2052 (SH 1 OF 2)
15	120-TT-06	2310-PB-2052 (SH 1 OF 2)
16	50-TT-01	E-3588-50005A (SH 1 OF 3)

NOTES:-

- . THIS DRAWING IS APPLICABLE FOR LINE SIZES GREATER/ EQUAL TO 4"
- 2. NUTS, BOLTS GASKET, ISOLATION VALVES, VENT / DRAIN SHALL BE PROVIDED BY PIPING.
- 3. ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED ..
- 4. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



ENAR PETROTECH SERVICES

(PRIVATE) LIMITED
7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk Dwg. No.

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TYPICAL HOOK-UP DIAGRAM FOR TEMPERATURE TRANSMITTER FOR LINE SIZES
GREATER THAN EQUAL TO 4" TEMPERATURE TRANSMITTER FOR LINE SIZES

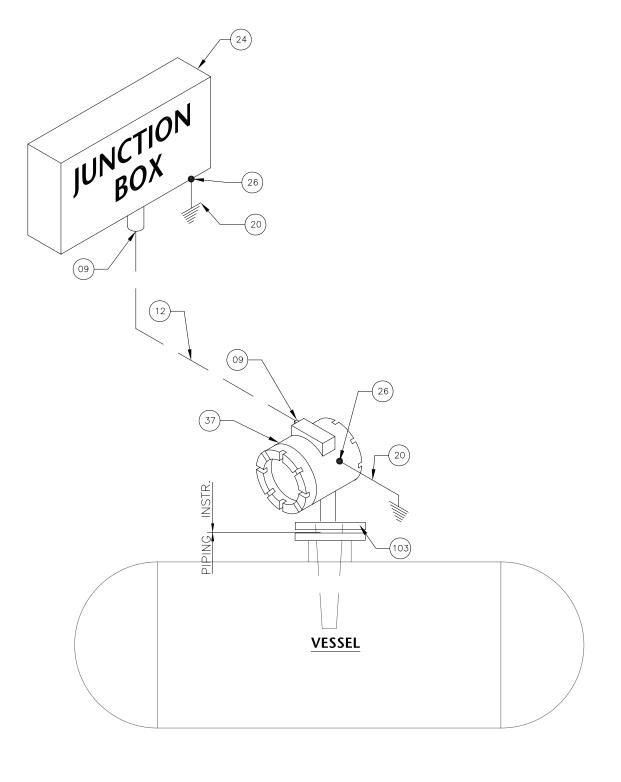
GREATER THAN EQUAL TO 4"

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Job No. 14-0162

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6320 SHEET- 1 OF 3

MPUTER 0162-IMB-6320-0



	MATERIAL FOR INSTALLATION				
S.No	DESCRIPTION	QTY			
09	EExd/e IIC CABLE GLAND WITH BLACK SHROUD M20x1.5mm²	_			
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	-			
24	JUNCTION BOX	-			
103	316 SS THERMOWELL ANSI FLANGE	01 Nos			
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	5 Mtr.			
26	EARTHING LUGS FOR 4mm² CABLE	02 Nos			
37	TEMPERATURE TRANSMITTER	01 Nos			
		•			

S.NO.	TAGS	P & ID Nos.
1	830-TT-05	2310-PB-2075
2	830-TT-06	2310-PB-2075
3	TT-05	0180-A1-12
4	TT-14	0180-A1-18
5	TT-15	0180-A1-18
6	60-TT-01	E-3588-60005A-D1
7	60-TT-02	E-3588-60005B-D1
8	60-TT-03	E-3588-60005C-D1
9	60-TT-25	E-3588-60005D-D1

NOTES:-

- NUTS, BOLTS AND GASKET REQUIRED FOR MOUNTING TEMPERATURE INDICATOR SHALL BE PROVIDED BY PIPING.
- 2- PIPING SHALL PROVIDE SUITABLE ANSI FLANGE WITH MIN 150mm PROJECTION.
- 3- ALL DIMENSIONS ARE IN MM UNLESS OTHER WISE STATED.
- 4- INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

ENAR PETROTECH SERVICES (PRIVATE) LIMITED		Job I	No. 1	4-01	62	
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



ENAR PETROTECH SERVICES (PRIVATE) LIMITED

7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk

Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6320

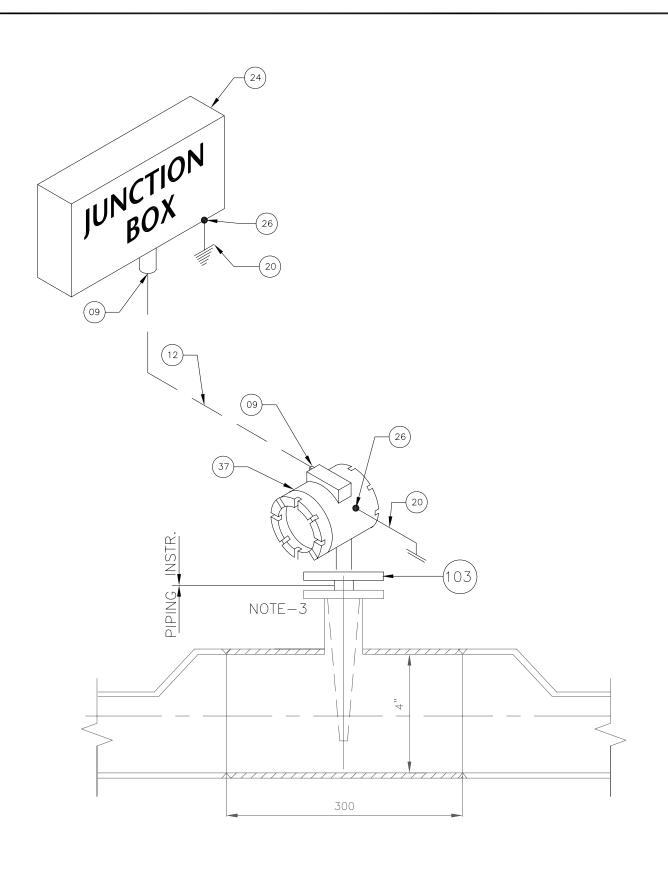
DAKHNI GAS PLANT INSTRUMENT **UPGRADATION PROJECT**

TYPICAL HOOKUP DIAGRAM OF TEMPERATURE TRANSMITTER

MPUTER 0162-IMB-6320-0 FOR VESSEL INSTALLATION

THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL

SHEET:- 2 OF 3



	MATERIAL FOR INSTALLATION	
S.No	DESCRIPTION	QTY
09	EExd/e IIC CABLE GLAND WITH BLACK SHROUD M20x1.5mm ²	_
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	_
24	JUNCTION BOX	-
03	316 SS THERMOWELL ANSI FLANGE	01 Nos
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	5 Mtr.
26	EARTHING LUGS FOR 4mm ² CABLE	02 Nos
37	TEMPERATURE TRANSMITTER	01 Nos

s.no.	TAGS	P & ID No
1	30-TT-01	E-3588-30005A
2	30-TT-02	E-3588-30005A
3	60-TT-028	2310-PB-2111
4	TT-7-17	0180-A1-16
5	60-TT-13	E-3588-60005B-D1
6	60-TT-23	E-3588-60005D-D1
7	60-TT-24	E-3588-60005D-D1
8	60-TT-26	E-3588-60005D-D1

- 1. NUTS, BOLTS AND GASKET REQUIRED FOR MOUNTING TEMPERATURE INDICATOR SHALL BE PROVIDED BY PIPING.
- 2. ALL DIMENSIONS ARE IN MM UNLESS OTHER WISE STATED.
- 3. PIPING SHALL PROVIDE SIUTABLE ANSI FLANGE WITH 150mm PROJECTION FOR UNINSULATED LINES & 175mm PROJECTION FOR INSULATED LINES.
- 4. THIS DRAWING IS APPLICABLE FOR LINE SIZES EQUAL OR LESS THAN 4".
- 5. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY..

ISSUED FOR REVIEW AND APPROVAL

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



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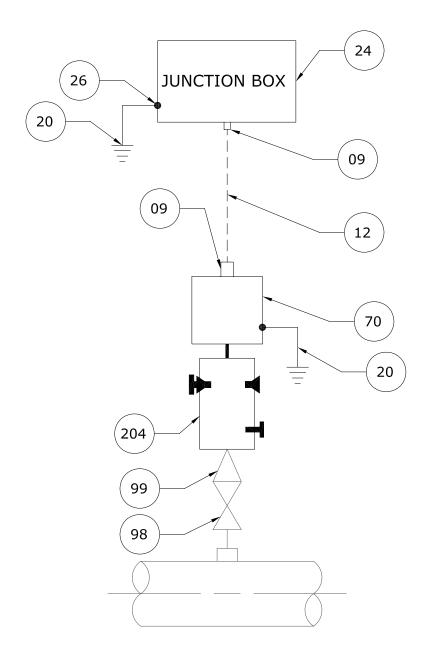
14-0162

OIL & GAS DEVELOPMENT COMPANY LTD 0102-IMB-6320

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR TEMPERATURE GAUGE FOR LINE SIZES EQUAL OR LESS THAN 4"

(SHEET:- 3 of 3)				
COMPUTER CODE	0162-IMB-6320-0			
SHEET SIZE	A4			

EQUAL OR LESS THAN 4" SPALE N.T.S
REPLACE FOR SOME NO. - DWG. - DWG. NO. - DWG. - DWG. NO. - DWG. - DWG.



	MATERIAL FOR INSTALLATION	
S.No	DESCRIPTION	QTY
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD M20 x 1.5mm ²	-
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm ²	-
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	5 Mtr
70	PRESSURE SWITCH	1 Nos
204	2-VALVE MANIFOLD 316 STANLESS STEEL 1/2" NPTF	01 No
24	EExd/e JUNCTION BOX	-
26	EARTHING LUGS	02 No
98	3/4" NPTF ISOLATION VALVE	01 No
99	3/4" x 1/2" NPTF SWAGE NIPPLE	01 No
		-

s.no.	TAGS	P & ID No
1	100-PSH-09	2310-PB-2053 (SH 2 OF 2)
2	100-PSH-10	2310-PB-2053 (SH 2 OF 2)
3	PSH-20	0180-A1-12
4	PSL-28	0180-A1-18
5	901-PSL-01	2310-PB-2068
6	901-PSLL-02	2310-PB-2068
7	901-PSLL-03	2310-PB-2068
8	50-PSLL-01	E-3588-50005A (SH 1 OF 3)

NOTES:-

1. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
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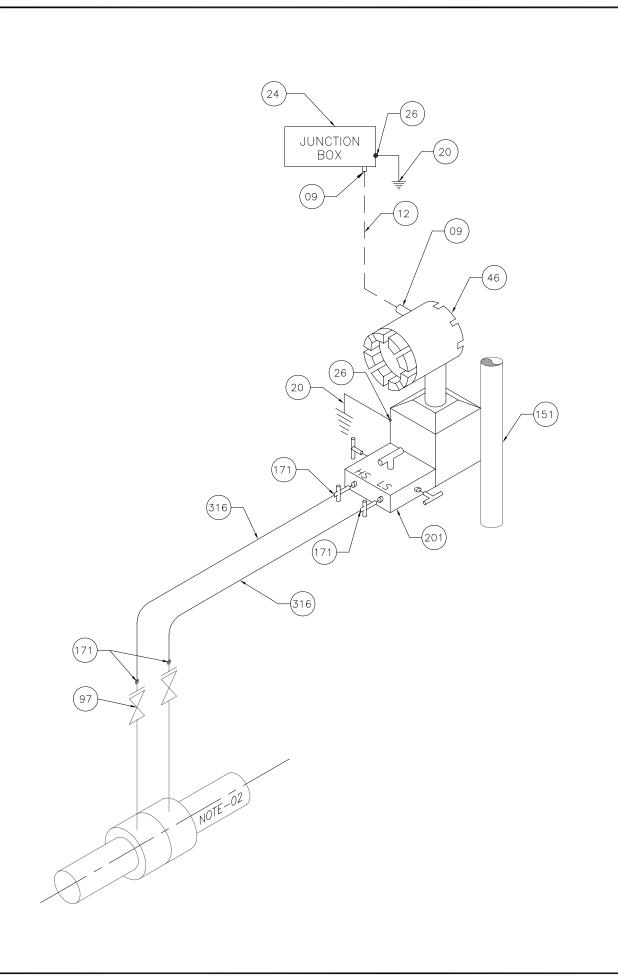
7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk

14-0162 Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LTD 0162-IMB-6321

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR

OMPUTER 0162-IMB-6321-0
HEET SIZE A4



	MATERIAL FOR INSTALLATION	
	DESCRIPTION	QTY
171	MALE CONNECTOR S.S 316 1/2" NPTM x 1/2" O.D TUBING	4 Nos
316	TUBING S.S SMLS ASTM A269 TP 316 12mm O.D.x 1.5mm THICK	10 Mtr
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20	_
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	_
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	05 Mtr
46	FLOW TRANSMITTER DP TYPE	01 Nos
201	5-VALVE MANIFOLD STANLESS STEEL 1/2" NPTF	01 Nos
24	EExd/e JUNCTION BOX	_
26	EARTHING LUGS FOR 4mm ² CABLE	2 Nos
151	INSTRUMENT SUPPORT 2" CS GALVANIZED	1 Nos
97	½" NPTF ISOLATION VALVE	2 Nos

- 1. FLOW TRANSMITTER SHALL BE INSTALLED ABOVE TAPPING POINT FOR GAS SERVICE AND BELOW TAPPING FOR LIQUID SERVICE.
- 2. ORIFICE FLANGES ARE IN INSTRUMENT SCOPE OF SUPPLY.
- 3. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR



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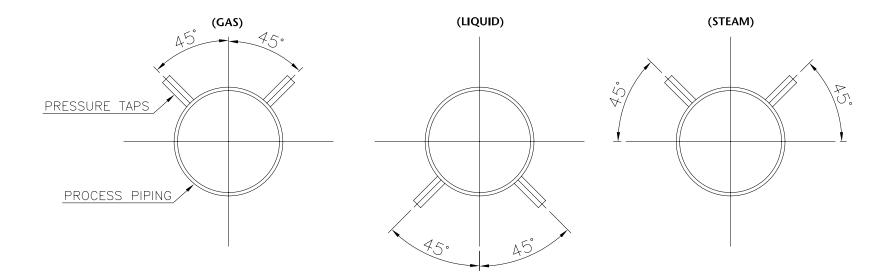
OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6322

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR

SHEET-1 OF 3 MPUTER 0162-IMB-6322-0

Job No. 14-0162

FLOW TRANSMITTER DP TYPE THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL



PRCCESS PRESSURE TAP ANGLE (FOR HORIZONTAL PIPING)

NOTE:

- 1- ORIFICE FLANGE AND PIPE SHALL BE OF SAME INTERNAL DIAMETER.
- 2- IF THE PROCESS FLUID IS A GAS. THE TAPS MUST BE VERTICAL OR WITHIN 45° EITHER SIDE OF VERTICAL. IF AT ALL POSSIBLE TRANSMITTER SHALL BE INSTALL ABOVE TAPPING POINTS AND SLOPE OF IMPULSE TUBING SHALL BE TOWARDS PROCESS CONNECTION.
- 3- IF THE PROCESS FLUID IS A LIQUID, THE TAPS MUST BE HORIZONTAL OR BELOW HORIZONTAL, BUT NOT MORE THAN 45° BELOW HORIZONTAL. IF AT ALL POSSIBLE TRANSMITTER SHALL BE INSTALL BELOW TAPPING POINTS AND SLOPE OF IMPULSE TUBING SHALL BE TOWARDS TRANSMITTER.
- 4- IF THE PROCESS FLUID IS STEAM OR OTHER CONDENSING VAPOR, THE TAPS MUST BE HORIZONTAL OR ABOVE HORIZONTAL, BUT NOT MORE THAN 45° ABOVE HORIZONTAL. IF AT ALL POSSIBLE TRANSMITTER SHALL BE INSTALL BELOW TAPPING POINTS AND SLOPE OF IMPULSE TUBING SHALL BE TOWARDS TRANSMITTER.
- 5- HORIZONTAL RUN SLOPE SHALL BE ATLEAST 12:1 INCHES
- 6- CONNECTION PIPING BETWEEN ORIFICE AND TRANSMITTER SHALL BE KEPT AS SMALL AS POSSIBLE

NOTES:-

- 1. PIPING SHALL PROVIDE 1/2" NPTF ISOLATION VALVES.
- 2. FLOW TRANSMITTER SHALL BE INSTALLED ABOVE TAPPING POINT FOR GAS SERVICVE AND BELOW TAPPING FOR LIQUID SERVICE.
- 3. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

TYPICAL HOOK-UP DIAGRAM FOR FLOW TRANSMITTER DP TYPE

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
E	NAR]	ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job	No. 1	4-01	62
A CO	MPANY OF	7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info®enar.com.pk URL:www.enar.com.pk		j. No.		
Ol	L & GAS E	DEVELOPMENT COMPANY LIMITED	016	52-II√	1B-63	22
	DAKH	NI GAS PLANT INSTRUMENT	5	HEET-	2 OF 3	
	l	JPGRADATION PROJECT	COMPUT CODE	ER 0162	-IMB-63	22-0
TITLE	TVI	DICAL HOOK-LIP DIACRAM FOR	SHEET S	IZE	A4	

	APPLICABLE TAG NO.				
S.NO.	TAGS	P & ID No			
1	20-FT-03	E-3588-20005A (SH 1 OF 2)			
2	20-FT-15	E-3588-20005A (SH 2 OF 2)			
3	30-FT-01	E-3588-30005A			
4	40-FT-05	E-3588-40005A-D2			
5	40-FT-15	E-3588-40005A-D2			
6	830-FT-01	2310-PB-2075			
7	830-FT-06	2310-PB-2075			
8	806-FT-01	2310-PB-2072			
9	806-FT-02	2310-PB-2072			
10	806-FT-03	2310-PB-2072			
11	801-FT-01	2310-PB-2116			
12	801-FT-03	2310-PB-2116			
13	FT-1	0180-AI-12			
14	FT-3	0180-AI-12			
15	FT-10	0180-AI-12			
16	802-FT-01	2310-PB-2064			
17	100-FT-02	2310-PB-2053 (SH 1 OF 2)			
18	100-FT-06	2310-PB-2053 (SH 2 OF 2)			
19	903-FT-01	2310-PB-2058 (SH 2 OF 2)			
20	50-FT-15	E-3588-50005A (SH 1 OF 3)			
21	60-FT-15	E-3588-60005A-D1			
22	60-FT-13	E-3588-60005B-D1			
23	60-FT-07	E-3588-60005D-D1			
24	60-FT-2000	E-3588-60005E-D1			
25	910-FT-01	2310-PB-2059			
26	911-FT-01	2310-PB-2077 (SH 1 OF 2)			
27	830-FT-07	2310-PB-2075			

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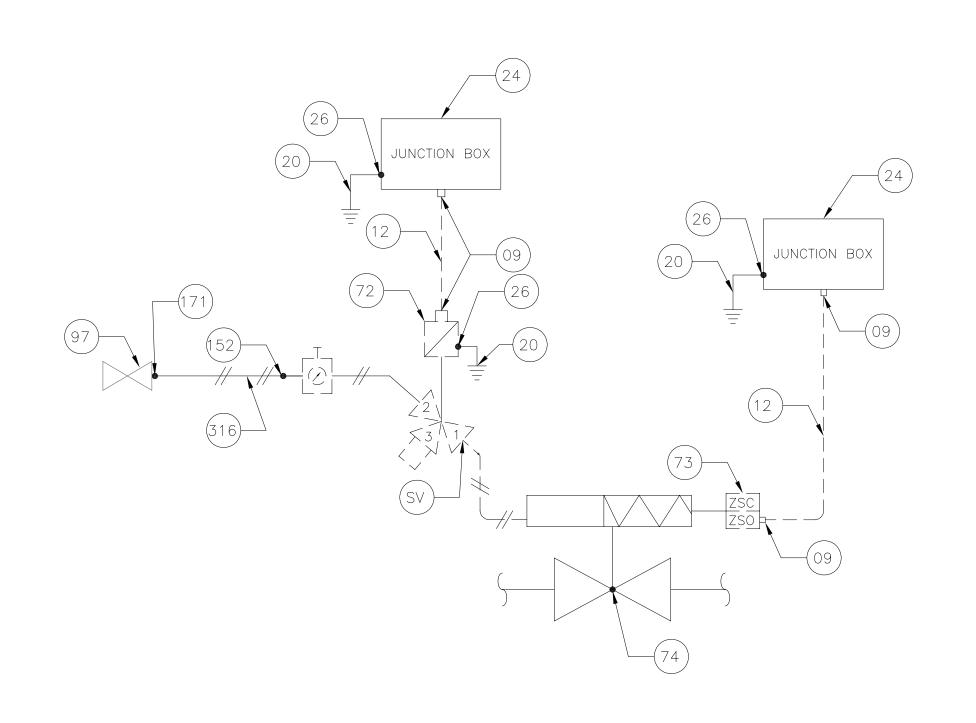
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REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
Œ	NAR]	ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job	No. 1	4-01	62
A CO	MPANY OF	(PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk	_	j. No.		
OI	IL & GAS E	DEVELOPMENT COMPANY LIMITED	016	52-II√	1B-63	322
		NI GAS PLANT INSTRUMENT	5	HEET-	3 OF 3	
	ı	JPGRADATION PROIECT	COMPUT	FRLago	-IMB-63	

UPGRADATION PROJECT

TITLE: TYPICAL HOOK-UP DIAGRAM FOR SHEET SIZE A4

FLOW TRANSMITTER DP TYPE

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- 1. EXPANDER, REDUCER, GASKETS, STUDS, NUTS & BOLTS TO BE PROVIDED BY PIPING.
- 2. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

	MATERIAL FOR INSTALLATION		
	DESCRIPTION		QTY
171	MALE CONNECTOR S.S 316 1/2" NPTM x 1/2" O.D TUBING	01	Nos
316	TUBING S.S SMLS ASTM A269 TP 316 12mm O.D.x 1.5mm THICK	05	Mtr
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20	_	
4.0	INICIDING TO A DISCOUNT DIAGRAM OF A STATE O	-	
12	INSTRUMENT CABLE - OUTER SHEATH BLACK 1 x 2 x 1.5mm ²	-	
20	YELLOW GREEN 4mm² EARTHING CONDUCTOR	05	Mtr
20	TELLOW GREEN 4mm EARTHING CONDUCTOR	00	IVICI
74	AUTOMATIC BALL VALVE	01	Nos
	TOTOMATIO BALL TALET		
73	LIMIT SWITCHES	01	Nos
72	SOLENOID VALVE	01	Nos
24	EExd/e JUNCTION BOX	-	
26	EARTHING LUGS 4mm ² CABLE	03	Nos
450		0.4	k.1
152	MALE CONNECTOR S.S 316 ¼" NPT-M x ½" O.D TUBING	101	Nos
97	%" NPTF ISOLATION VALVE	1	Nos
3/	/2 INFIF ISOLATION VALVE	11	INUS

APPLICABLE TAG NO.

S.NO.	TAGS	P & ID No		
1	60-BDV-01	E-3588-60005A-D1		
2	60-BDV-07	E-3588-60005B-D1		
3	20-ESDV-01	E-3588-20005A (SH 1 OF 2)		
4	20-ESDV-02	E-3588-20005A (SH 2 OF 2)		
5	806-ESDV-01	2310-PB-2072		
6	100-ESDV-01	2310-PB-2053 (SH 1 OF 2)		
7	100-ESDV-02	2310-PB-2053 (SH 2 OF 2)		
8	60-ESDV-02	E-3588-60005A D1		
9	60-ESDV-03	E-3588-60005B D1		
10	60-ESDV-05	E-3588-60005B D1		
11	60-ESDV-06	E-3588-60005B D1		
12	60-ESDV-04	E-3588-60005C D1		
13	806-LCV-01	2310-PB-2072		
14	806-LCV-02	2310-PB-2072		

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



ENAR PETROTECH SERVICES

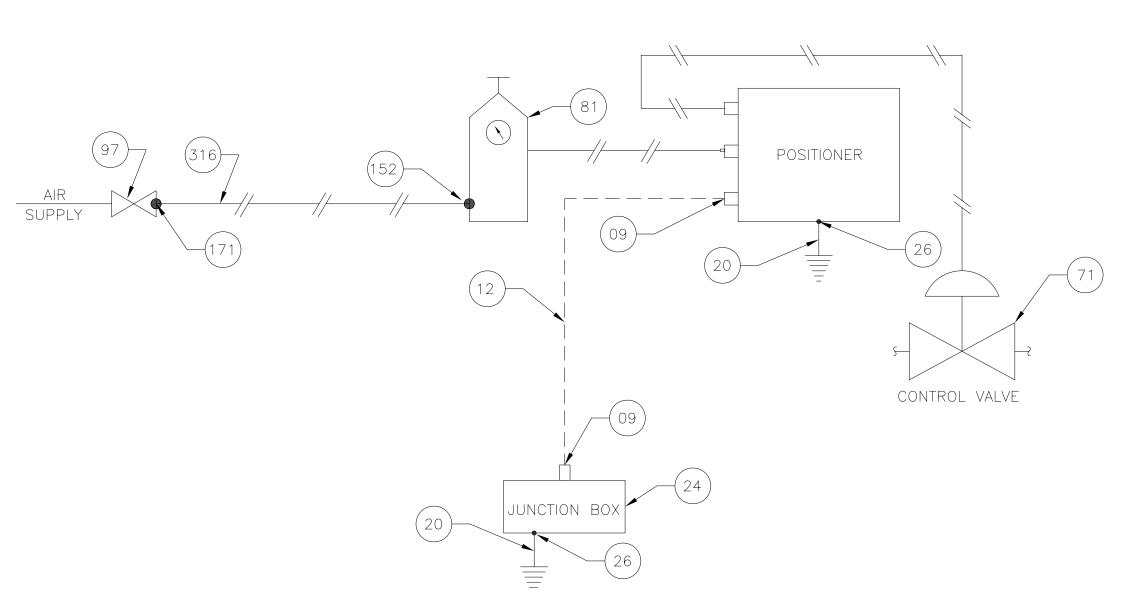
Job No. 14-0162 (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info®enar.com.pk URL:www.enar.com.pk Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6323

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TYPICAL HOOK-UP DIAGRAM FOR SINGLE ACTING BDV /ESDV (AUTOMETIC BALL VALVE)

MPUTER 0162-IMB-6323-0



	MATERIAL FOR INSTALLATION	
ITEM No.	DESCRIPTION	QTY.
12	NSTRUMENT CABLE OUTER SHEATH BLACK 1x2x1.5mm²	_
20	YELLOW GREEN 4mm² EARTHING CONDUCTOR	05 Mtr
24	EExd/e JUNCTION BOX	-
71	CONTROL VALVE	01 Nos
81	FILTER REGULATOR	01 Nos
316	TUBING S.S SMLS ASTM A269 TP 316 12mm O.D.x 1.5mm THICK	05 Mtr
0.0	540711110 11100	02 Nos
26	EARTHING LUGS	UZ NOS
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20	_
171	MALE CONNECTOR S.S 316 1/2" NPTM x 1/2" O.D TUBING	01 Nos
L	4/2	
152	MALE CONNECTOR S.S 316 1/4" NPTM x 1/2" O.D TUBING	01 Nos
97	ル。NPTE ISOLATION VALVE	1 N-
9/	72 NETE ISOLATION VALVE	1 No

APPLICABLI	E TAG NO.
DESCRIPTION	P & ID Nos.
20-LCV-05	E-3588-20005A (SH 2 OF 2)
40-PCV-06	E-3588-40005A
100-PCV-07	2310-PB-2053 (SH 1 OF 2)
100-PCV-08	2310-PB-2053 (SH 2 OF 2)
	DESCRIPTION 20-LCV-05 40-PCV-06 100-PCV-07

- 1- NUTS, BOLTS AND GASKET REQUIRED FOR MOUNTING CONTROL VALVE SHALL BE PROVIDED BY PIPING.
- 2- ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED.
- 3- INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

ENAR PETROTECH SERVICES (PRIVATE) LIMITED		Job I	No. 1	4-01	62	
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



TITLE:

ENAR PETROTECH SERVICES (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk

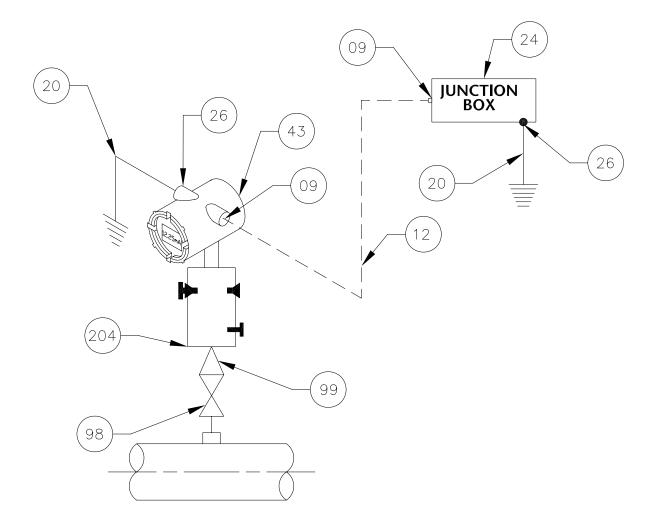
Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6324

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TYPICAL HOOK-UP DIAGRAM FOR CONTROL VALVE

	0162-IMB-6324-0
SHEET SIZE	A4
SCALE	1:1
REPLACES DWG. NO.	



	MATERIAL FOR INSTALLATION	
ITEM No	DESCRIPTION	QTY
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20	-
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	-
24	EExd/e JUNCTION BOX	-
43	PRESSURE TRANSMITTER	01 Nos
20	VELLOW OBEEN 4 2 EARTHING CONDUCTOR	05 Mts
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	05 Mtr
26	EARTHING LUGS	02 Nos
		02
204	2-VALVE MANIFOLD 316 SS 1/2" NPTF	01 Nos
99	3/4" X 1/2" NPTM SWAGE NIPPLE	01 Nos
98	3/4" NPTF ISOLATION VALVE	1 No

- 1. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.
- 2. NUTS, BOLTS AND GASKET REQUIRED FOR MOUNTING PRESSURE SHALL BE PROVIDED BY PIPING.
- 3. ALL DIMENSION ARE IN MM UNLESS OTHER WERE STATED.

ISSUED FOR REVIEW AND APPROVAL

E	NAR]	ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job I	No. 1	4-01	62
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



ENAR PETROTECH SERVICES (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk

Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED

DAKHNI CAS PLANT INSTRUMENT

O162-IMB-6325
SHEET- 1 OF 2 DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

> TYPICAL HOOK-UP DIAGRAM FOR PRESSURE TRANSMITTER

COMPUTER CODE 0162-IMB-6325-0
SHEET SIZE A4
SCALE 1:1
REPLACES DWG. NO.

	APPLICABLE TAG NO.				
S.NO.	TAGS	P & ID No.			
1	20-PIT-06	E-3588-20005A (SH 2 OF 2)			
2	20-PT-05	E-3588-20005A (SH 2 OF 2)			
3	30-PT-01	E-3588-30005A			
4	40-PT-01	E-3588-40005A-D2			
5	40-PT-06	E-3588-40005A-D2			
6	830-PT-02	2310-PB-2075			
7	830-PT-03	2310-PB-2075			
8	830-PT-04	2310-PB-2075			
9	830-PT-06	2310-PB-2075			
10	830-PT-07	2310-PB-2075			
11	830-PT-08	2310-PB-2075			
12	806-PT-03	2310-PB-2072			
13	806-PT-15	2310-PB-2072			
14	806-PT-16	2310-PB-2072			
15	801-PT-15	2310-PB-2116			
16	801-PT-16	2310-PB-2116			
17	60-PT-007	2310-PB-2111			
18	60-PT-02	2310-PB-2111			
19	PIC-10	0180-AI-11			
20	PIC-35	0180-AI-19			
21	PIC-33	0180-AI-19			
22	PIC-51	0180-AI-19			
23	PC-39	0180-AI-20			
24	PC-41	0180-AI-20			
25	PC-46	0180-AI-20			
26	901-PT-03	2310-PB-2068			
27	912-PT-03	2310-PB-2073			
28	802-PT-03	2310-PB-2064			
29	803-PT-03	2310-PB-2066			
30	100-PT-01	2310-PB-2053 (SH 1 OF 2)			
31	100-PIC-02	2310-PB-2053 (SH 1 OF 2)			
32	100-PIC-03	2310-PB-2053 (SH 1 OF 2)			
33	100-PIC-04	2310-PB-2053 (SH 1 OF 2)			
34	100-PT-07	2310-PB-2053 (SH 1 OF 2)			
35	100-PT-05	2310-PB-2053 (SH 2 OF 2)			
36	100-PT-08	2310-PB-2053 (SH 2 OF 2)			
37	100-PT-06	2310-PB-2053 (SH 2 OF 2)			
38	903-PT-07	2310-PB-2058 (SH 2 OF 2)			
39	50-PT-01	E-3588-50005A (SH 1 OF 3)			
40	50-PT-01	E-3588-50005A (SH 1 OF 3)			

	APPLICA	ABLE TAG NO.		
S.NO.	TAGS	P & ID No.		
24	PC-41	0180-AI-20		
25	PC-46	0180-AI-20		
26	901-PT-03	2310-PB-2068		
27	912-PT-03	2310-PB-2073		
28	802-PT-03	2310-PB-2064		
29	803-PT-03	2310-PB-2066		
30	100-PT-01	2310-PB-2053 (SH 1 OF 2)		
31	100-PIC-02	2310-PB-2053 (SH 1 OF 2)		
32	100-PIC-03	2310-PB-2053 (SH 1 OF 2)		
33	100-PIC-04	2310-PB-2053 (SH 1 OF 2)		
34	100-PT-07	2310-PB-2053 (SH 1 OF 2)		
35	100-PT-05	2310-PB-2053 (SH 2 OF 2)		
36	100-PT-08	2310-PB-2053 (SH 2 OF 2)		
37	100-PT-06	2310-PB-2053 (SH 2 OF 2)		
38	903-PT-07	2310-PB-2058 (SH 2 OF 2)		
39	50-PT-01	E-3588-50005A (SH 1 OF 3)		
40	50-PT-01	E-3588-50005A (SH 1 OF 3)		
41	50-PT-02	E-3588-50005A (SH 1 OF 3)		
42	50-PT-07	E-3588-50005A (SH 2 OF 3)		
43	50-PT-08	E-3588-50005A (SH 2 OF 3)		
44	60-PT-01	E-3588-60005A-D1		
45	60-PT-17	E-3588-60005A-D1		
46	60-PT-15	E-3588-60005B-D1		
47	60-PT-16	E-3588-60005C-D1		
48	60-PIC-2000	E-3588-60005E-D1		
49	50-PT-01C	2310-PB-2110		
50	50-PT-01	2310-PB-2110		
51	911-PT-01	2310-PB-2077 (SH 1 OF 2)		
52	911-PT-02	2310-PB-2077 (SH 1 OF 2)		
53	911-PT-03	2310-PB-2077 (SH 1 OF 2)		
54	911-PT-04	2310-PB-2077 (SH 1 OF 2)		

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2076	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



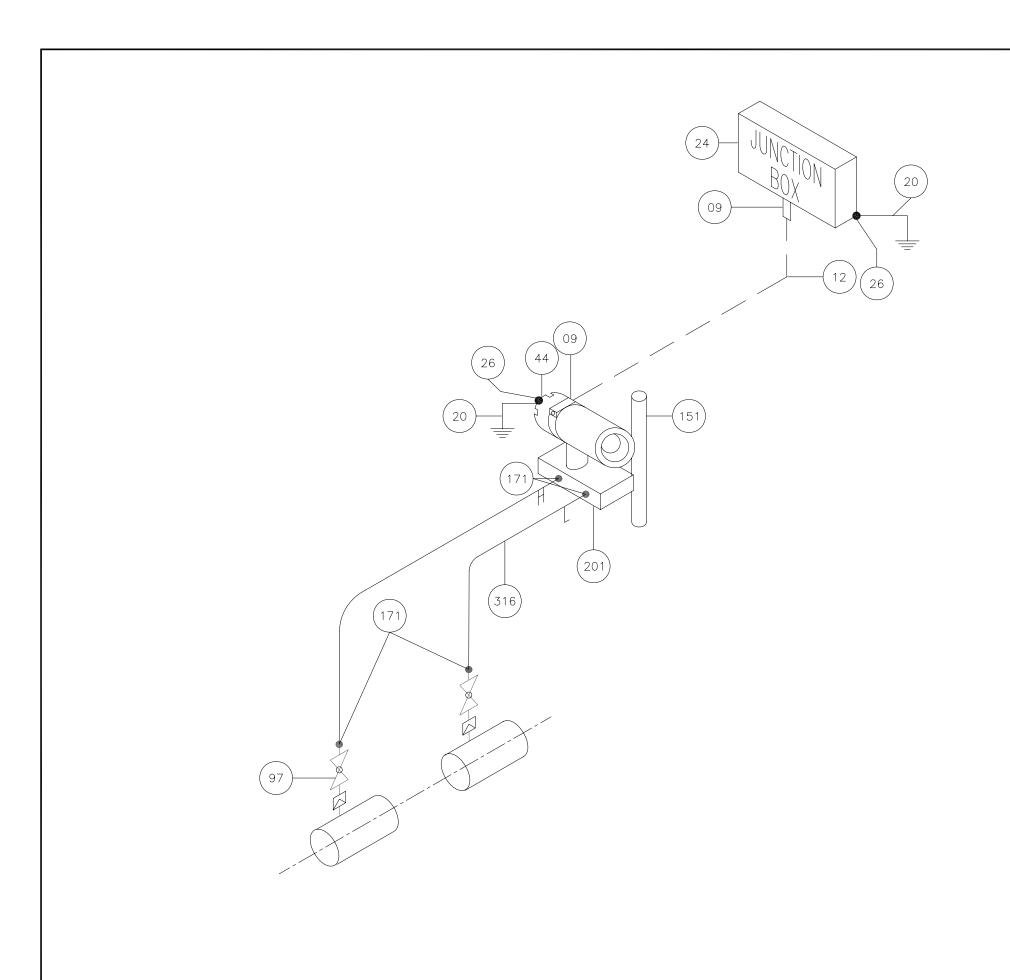
ENAR PETROTECH SERVICES Job No. 14-0162 ENAR PETROTECTI SERVICES (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk URL:www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6325 SHEET- 2 OF 2

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TITLE: TYPICAL HOOK-UP DIAGRAM FOR PRESSURE TRANSMITTER

THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL



	MATERIAL FOR INSTALLATION					
	DESCRIPTION	Q.	ΓΥ			
171	MALE CONNECTOR S.S 316 1/2" NPTM x 12mm O.D TUBING	04	Nos			
316	TUBING S.S SMLS ASTM A 269 TP 316 12mm O.D. x 1.5mm THK	10	Mtr			
09	09 EExd IIC CABLE GLAND WITH SHROUD M20 x 1.5 mm²					
12	12 INSTRUMENT CABLE OUTER SHEATH BLUE 1 x 2 x 1.5mm²					
20	YELLOW GREEN 4mm ² STRANDED EARTHING CONDUCTOR	10	Mtr			
ļ						
44	DIFFERENTIAL PRESSURE TRANSMITTER	01	No			
001	7 14115 141150 2 07111 500 07551 1/7 11075 0171 57 010507	0.1				
201	3-VALVE MANIFOLD STANLESS STEEL ½" NPTF OUTLET DIRECT	01	No			
0.4	TRANSMITTER MOUNTED.					
24	EExd/e JUNCTION BOX	-				
200	EARTHING LUCC FOR Accus? CARLE	22	N 1			
26	EARTHING LUGS FOR 4mm ² CABLE	02	Nos			
151	INSTRUMENT PIPE SUPPORT 2" CS GALVANIZED	01	NI.o.			
151	INSTRUMENT PIPE SUPPORT 2 C3 GALVANIZED	U i	IVO			
97	が。NPTF ISOLATION VALVE	2 N	00			
97	1/2 NPTF ISOLATION VALVE	Z 1N	os			

S.NO.	TAGS	P & ID No
1	20-PDIT-02	E-3588-20005A (SH 2 OF 2)
2	40-PDIT-15	E-3588-40005B-D2
3	40-PDIT-16	E-3588-40005B-D2
4	60-PDIT-15	E-3588-60005E-D1
5	60-PDIT-16	E-3588-60005E-D1

- 1. IF AT ALL POSSIBLE TRANSMITTER SHALL BE INSTALLED ABOVE TAPPING POINT FOR GAS SERVICE AND BELOW TAPPING FOR LIQUID
- 2. NUTS, BOLTS AND GASKET, ISOLATION VALVE DRAIN/VENT REQUIRED SHALL BE PROVIDED BY PIPING.
- 3. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



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7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan
TEL: (9221) 5062791 E-mail: info@enar.com.pk
URL: www.enar.com.pk

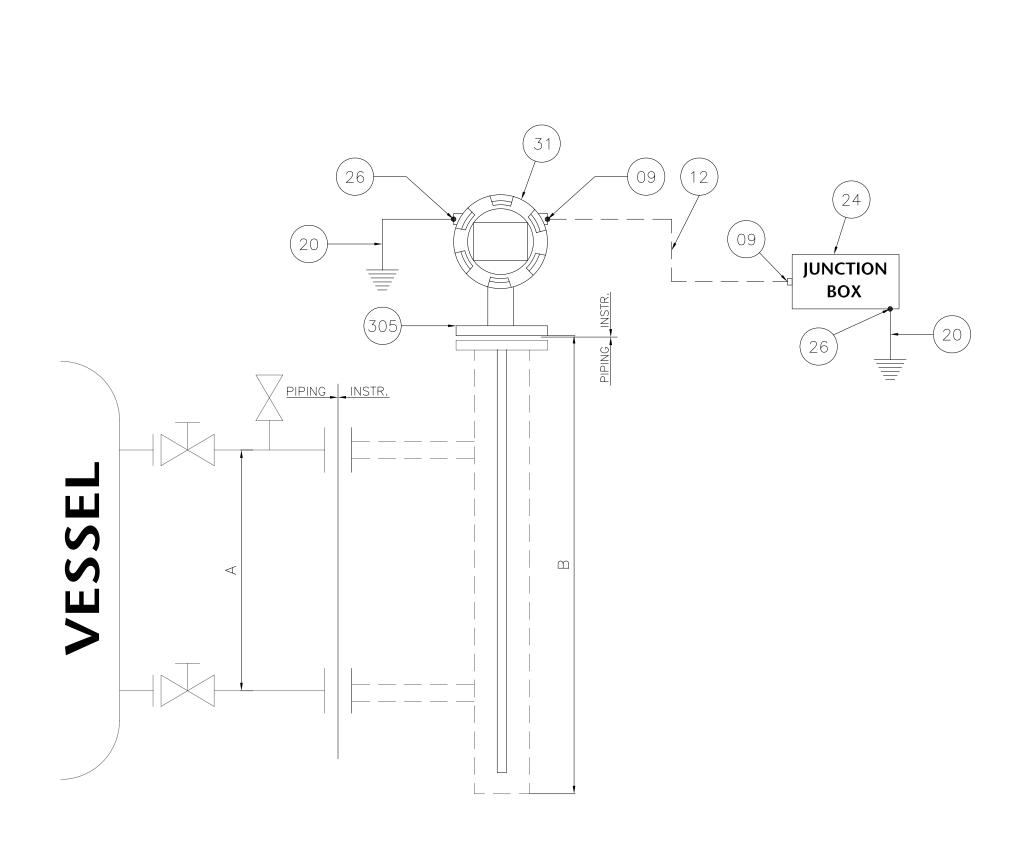
14-0162

OIL & GAS DEVELOPMENT COMPANY LTD 0162-IMB-6326

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TYPICAL HOOK-UP DIAGRAM FOR THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL

0162-IMB-6326-0



	MATERIAL FOR INSTALLATION		
S.No	DESCRIPTION		QTY.
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD M20x1.5mm ²	_	
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1x2x1.5mm2	-	
24	EExd/e JUNCTION BOX	_	
31	RADAR TYPE LEVEL TRANSMITTER	01	Nos
20	YELLOW GREEN 4mm2 STRANDED EARTHING CONDUCTOR	05	Mtr.
26	EARTHING LUGS	02	Nos
305	ANSI FLANGE	01	Nos

s.no.	TAGS	P & ID No			
1	20-LT-16	E-3588-20005A (SH 1 OF 2)			
2	30-LT-15	E-3588-30005A			
3	40-LT-01	E-3588-40005A D2			
4	40-LT-05	E-3588-40005B-D2			
5	830-TT-02	2310-PB-2075			
6	806-LT-01	2310-PB-2072			
7	806-LT-02	2310-PB-2072			
8	LT-7	0180-A1-12			
9	LT-15	0180-A1-20			
10	902-LT-01	2310-PB-2063			
11	902-LT-02	2310-PB-2063			
12	60-LT-15	E-3588-60005A-D1			
13	60-LT-16	E-3588-60005A-D1			
14	911-LT-01	2310-PB-2077 (SH 1 OF 2)			
15	911-LT-02	2310-PB-2077 (SH 1 OF 2)			
16	911-LT-03	2310-PB-2077 (SH 1 OF 2)			
17	911-LT-04	2310-PB-2077 (SH 1 OF 2)			
18	903-LT-02	2310-PB-2058 (SH 2 OF 2)			

- . NUTS, BOLTS AND GASKET REQUIRED FOR MOUNTING RADAR LEVEL TRANSMITTER SHALL BE PROVIDED BY PIPING.
- 2. ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED.
- 3. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



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'-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info®enar.com.pk URL:www.enar.com.pk

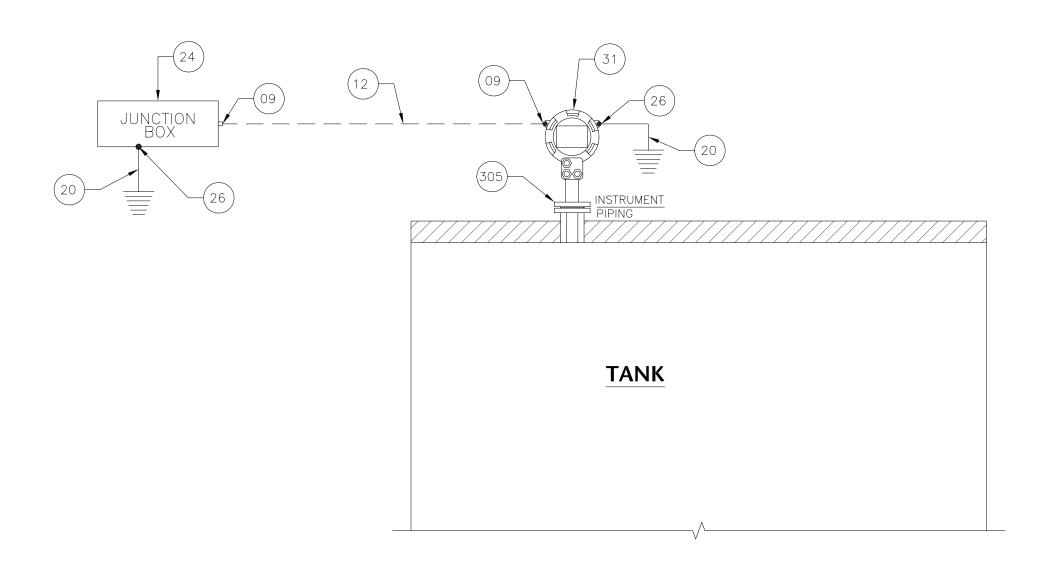
OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6327 SHEET- 1 OF 2

Dwg. No.

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR GUIDED RADAR TYPE LEVEL TRANSMITTER SIDE

	COMPUTER CODE	0162-IMB-6327-0
TITLE: TYPICAL HOOK-UP DIAGRAM FOR	SHEET SIZE	A4
	SCALE	1:1
	REPLACES DWG. NO.	
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST	BE TREAT	ED AS CONFIDENTIAL

Job No. 14-0162



	MATERIAL FOR INSTAL4፭ጃቸነውሽ ^{–2070}		
ITEM	No. DESCRIPTION	TQ	TY
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20		_
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	<u>.</u>	-
24	EExd/e JUNCTION BOX	\perp	
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	05	Mtr
	2	-	
26	EARTHING LUGS FOR 4mm ² CABLE	02	Nos
	DADAD TYPE LEVEL TRANSMITTED	-	
31	RADAR TYPE LEVEL TRANSMITTER	01	Nos
305	ANSI FLANGE	01	Nos
		+ -	-1100

	APPLICABLE TAG NO.						
S.NO.	TAGS	P & ID No					
1	830-LT-03	2310-PB-2075					
2	100-LIT-15	2310-PB-2070					
3	100-LIT-16	2310-PB-2070					
4	100-LIT-17	2310-PB-2070					
5	910-LT-01	2310-PB-2060					
6	910-LT-02	2310-PB-2060					
7	910-LT-03	2310-PB-2060					
8	910-LT-04	2310-PB-2060					
9	910-LT-05	2310-PB-2060					

NOTES

- 1- PIPING SHALL PROVIDE SUITABLE ANSI FLANGE CONNECTION.
- 2- ALL DIMENSIONS ARE IN MM UNLESS OTHER WISE STATED. 3- INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

					•	
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS



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OIL & GAS DEVELOPMENT COMPANY LTD 0162-IMB-6327 SHEET 2 OF 2

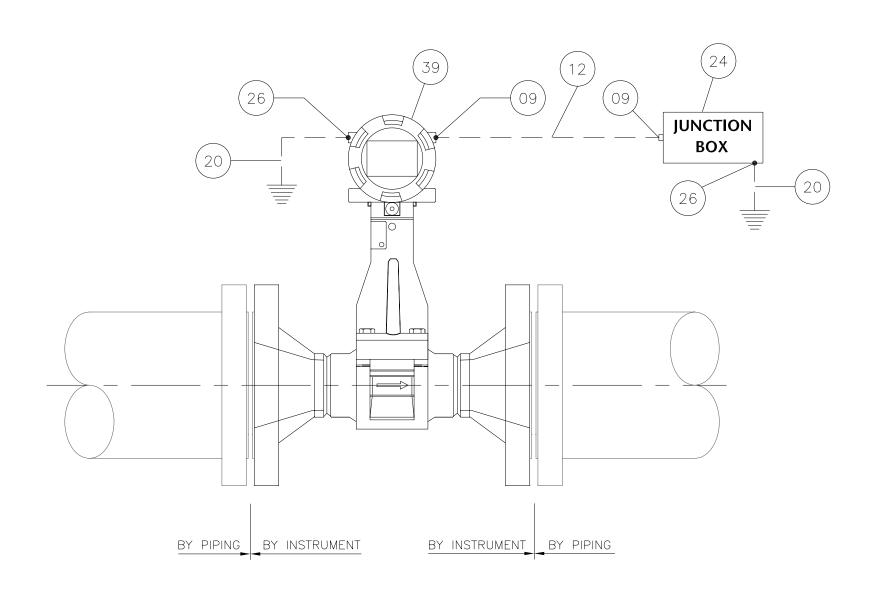
DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR

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MPUTER 0162-IMB-6327-0

Dwg. No.

14-0162



MATERIAL FOR INSTALLATION				
S.No	DESCRIPTION		QTY.	
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD M20x1.5mm²	-	-	
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1x2x1.5mm²	-	-	
24	EExd/e JUNCTION BOX	-	-	
39	VORTEX FLOW METER	01	Nos	
20	YELLOW GREEN 4mm2 STRANDED EARTHING CONDUCTOR	05	Mtr	
26	EARTHING LUGS	02	Nos	

S.NO.	TAGS	P & ID No
1	830-VFM-08	2310-PB-2075
2	30-VFM-15	E-3588-30005A

- 1. PIPING SHALL PROVIDE SUITABLE ANSI FLANGE.
- 2. NUTS, BOLTS AND GASKET REQUIRED FOR VORTEX FLOW METER SHALL BE PROVIDED BY PIPING.
- 3. ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED.
- 4. INSTALLATION MTERIALS ARE SHOWN FOR ONE TAG ONLY.

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



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Dwg. No.

14-0162

OIL & GAS DEVELOPMENT COMPANY LTD 0162-IMB-6328

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM FOR

0162-IMB-6328-0 VORTEX FLOW METER

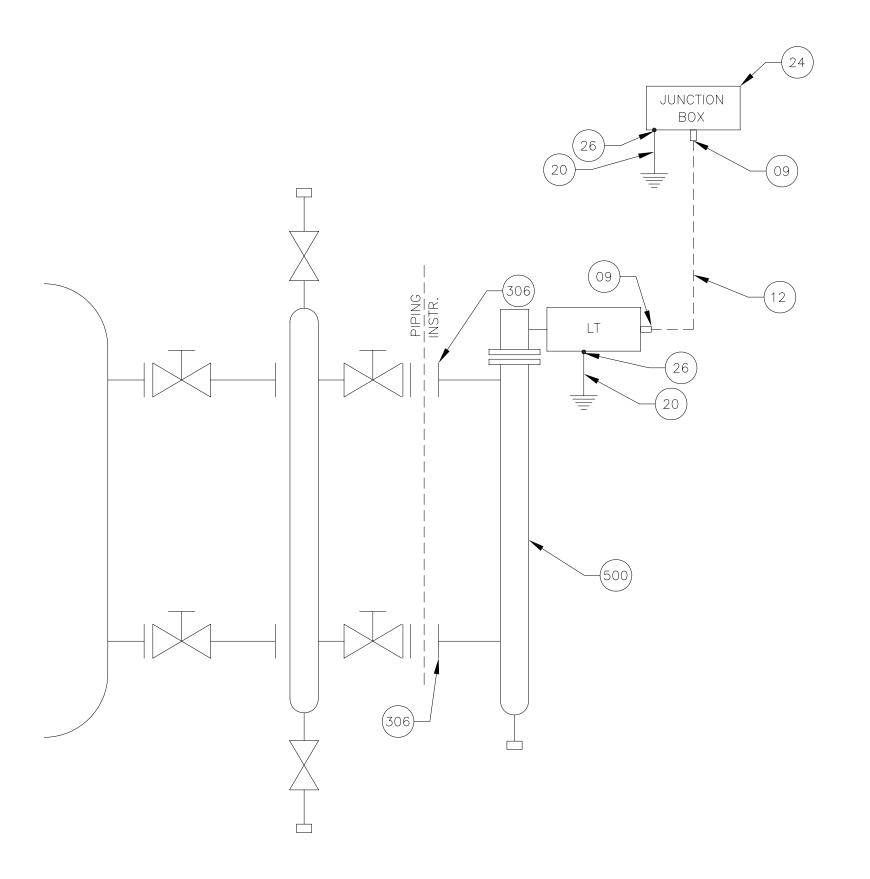
SCALE 1:1

VORTEX FLOW METER

SCALE 1:1

PWG. NO. XX

DWG. NO. BE TREATED AS CONFIDENTIAL



	MATERIAL FOR INSTALLATION		
	DESCRIPTION	QT	Υ
09	EExd/e IIC CABLE GLAND WITH BLACK SHROUD 20S M20	-	-
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	-	-
24	EExd/e JUNCTION BOX	-	-
500	DISPLACER TYPE LEVEL TRANSMITTER	01	Nos
306	ANSI FLANGE	02	Nos
26	EARTHING LUGS	02	Nos
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	05	Mtr

- 1- PIPING SHALL PROVIDED SUITABLE ANSI FLANGE CONNECTIONS.
- 2- NUTS, BOLTS, GASKET, ISOLATION VALVES, DRAIN / VENT SHALL BE PROVIDED BY PIPING.
- 3- INSTALATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



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(PRIVATE) LIMITED

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Job No. 14-0162 Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED

0162-IMB-6329 SHEET:- 1 OF 2

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT TYPICAL HOOK-UP DIAGRAM OF DISPLACER TYPE LEVEL TRANSMITTER

DISPLACER TYPE LEVEL TRANSMITTER

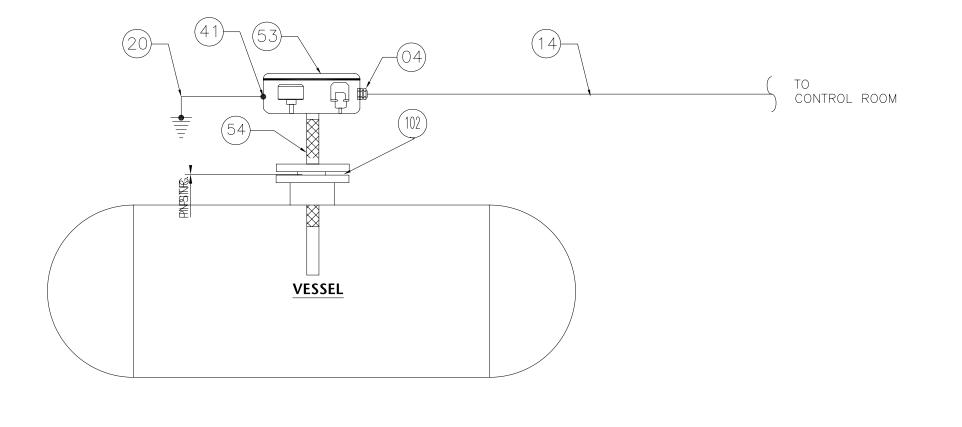
REPLACES | DWG. NO. |

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	APPLICABLE	TAG NO.
S.NO.	TAGS	P & ID No
1	20-LT-02	E-3588-20005A (SH 1 OF 2)
2	20-LT-04	E-3588-20005A (SH 2 OF 2)
3	20-LT-05	E-3588-20005A (SH 2 OF 2)
4	20-LT-06	E-3588-20005A (SH 2 OF 2)
5	30-LT-01	E-3588-30005A
6	30-LT-02	E-3588-30005A
7	801-LT-01	2310-PB-2116
8	60-LT-012	2310-PB-2111
9	60-LT-013	2310-PB-2111
10	LT-06	0180-A1-12
11	LT-9	0180-A1-13
12	LT-18	0180-A1-20
13	LT-90	0180-A1-20
14	100-LT-01	2310-PB-2053 (SH 1 OF 2)
15	100-LT-02	2310-PB-2053 (SH 1 OF 2)
16	100-LT-03	2310-PB-2053 (SH 1 OF 2)
17	100-LT-04	2310-PB-2053 (SH 1 OF 2)
18	100-LT-05	2310-PB-2053 (SH 1 OF 2)
19	100-LT-06	2310-PB-2053 (SH 1 OF 2)
20	100-LT-07	2310-PB-2053 (SH 1 OF 2)
21	100-LT-08	2310-PB-2053 (SH 2 OF 2)
22	100-LT-09	2310-PB-2053 (SH 2 OF 2)
23	903-LT-01	2310-PB-2058 (SH 1 OF 2)
24	903-LT-03	2310-PB-2058 (SH 1 OF 2)
25	50-LT-01	E-3588-50005A (SH 1 OF 3)
26	50-LT-02	E-3588-50005A (SH 1 OF 3)
27	50-LT-03	E-3588-50005A (SH 1 OF 3)
28	50-LT-04	E-3588-50005A (SH 1 OF 3)
29	60-LT-01	E-3588-50005A-D1
30	60-LT-02	E-3588-50005A-D1
31	60-LT-03	E-3588-60005A-D1
32	60-LT-04	E-3588-60005A-D1
33	60-LT-05	E-3588-60005A-D1
34	60-LT-06	E-3588-60005B-D1
35	60-LT-07	E-3588-60005B-D1
36	60-LT-12	E-3588-60005B-D1
37	60-LT-09	E-3588-60005C-D1
38	60-LT-10	E-3588-60005C-D1
39	60-LT-11	E-3588-60005D-D1
40	60-LT-2000A	E-3588-60005E-D1
41	60-LT-2000B	E-3588-60005E-D1

ISSUED FOR REVIEW AND APPROVAL

0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPI
Œ	NAR	ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job	No. 1	4-01	62
A COM	MPANY OF ,	7—B, Sector 7—A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E—mail: info@enar.com.pk URL:www.enar.com.pk	-	j. No.		
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	- 7 11 11 1	NI GAS PLANT INSTRUMENT JPGRADATION PROIECT	COMPUT	HEET:-	2 OF -IMB-63	
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THIS		ACER TYPE LEVEL TRANSMITTER 5 THE PROPERTY OF ENAR & THE CONTENTS MUS	REPLACI DWG. N	0.	CONFID	ENITIA



	MATERIAL FOR INSTALLATION	
	DESCRIPTION	QTY.
04	EExd IIC T6 CABLE GLAND WITH BLUE SHROUD 20S M20	_
14	INSTRUMENT CABLE OUTER SHEATH BLACK 1x2x1.5mm ²	_
20	YELLOW GREEN 4mm ² STRANDED EARTHING CONDUCTOR	05 Mtr.
53	ALUMINIUM ENCLOSURE WITH TERMINAL STRIP & 05 ENCLOSED	01 Nos
102	ANSI FLANGE	01 N
102	ANOL I LANGE	01 Nos
54	MULTI SPOT TEMPERATURE SENSOR THERMOWELL	01 Nos
41	EARTHING LUGS 4mm ²	01 Nos

S.NO.	TAGS	P & ID Nos.
1	TT-7A	0180-A1-13
2	TT-7B	0180-A1-14
3	TT-7C	0180-A1-15

NOTES:-

- 1. THIS DRAWING IS APPLICABLE FOR LINE SIZES GREATER/ EQUAL TO 4"
- 2. NUTS, BOLTS GASKET, ISOLATION VALVES, VENT / DRAIN SHALL BE PROVIDED BY PIPING.
- 3. ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED..
- 4. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

E	ENAR PETROTECH SERVICES Job No. 14-0162						
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.	
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS	



ENAR PETROTECH SERVICES

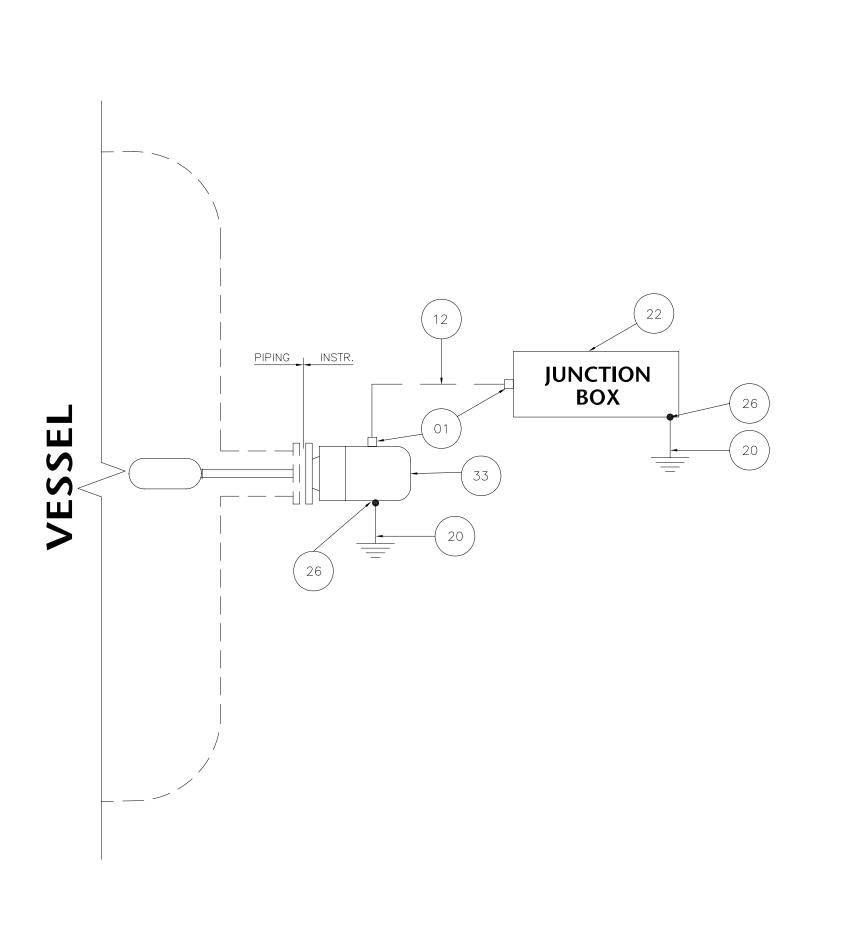
(PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info®enar.com.pk URL:www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6330 DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

TYPICAL HOOK-UP DIAGRAM FOR MULTIPOINT TEMPERATURE ELEMENT WITH TRANSMITTER

COMPUTER CODE	0162-IMB-6330-0
SHEET SIZE	A4
SCALE	1:1

Dwg. No.



	MATERIAL FOR INSTALLATION					
S.NO.	DESCRIPTION	QTY				
01	EExd IIC CABLE GLAND WITH BLACK SHROUD	-				
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	-				
22	EExd JUNCTION BOX	_				
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	5 Mtr				
26	EARTHING LUGS FOR 4mm ² CABLE	2 Nos				
33	LEVEL SWITCH	1 Nos				

S.NO.	TAGS	P & ID Nos.
1	20-LSLL-09	E-3588-20005A (SH 1 OF 2)
2	40-LSHH-07	E-3588-40005A-D2
3	40-LSHH-05	E-3588-40005B-D2
4	40-LSLL-06	E-3588-40005B-D2
5	40-LSHH-02	0180-A1-11
6	805-LSH-01	2310-PB-2056
7	100-LSLL-06	2310-PB-2053 (SH 1 OF 2)
8	100-LSLL-13	2310-PB-2053 (SH 1 OF 2)
9	100-LSHH-26	2310-PB-2053 (SH 2 OF 2)
10	100-LSLL-27	2310-PB-2053 (SH 2 OF 2)
11	100-LSLL-28	2310-PB-2053 (SH 2 OF 2)
12	903-LSH-01	2310-PB-2058 (SH 1 OF 2)
13	903-LSH-03	2310-PB-2058 (SH 1 OF 2)
14	903-LSH-02	2310-PB-2058 (SH 2 OF 2)
15	902-LSHH-01	2310-PB-2063
16	902-LSHH-02	2310-PB-2063
17	902-LSL-01	2310-PB-2063
18	804-LSH-01	2310-PB-2062
19	50-LSLL-051	2310-PB-2110

NOTES:-

- 1. THIS DRAWING IS APPLICABLE FOR LINE SIZES GREATER/ EQUAL TO 4"
- 2. NUTS, BOLTS GASKET, ISOLATION VALVES, VENT / DRAIN SHALL BE
- 3. ALL DIMENSION ARE IN MM UNLESS OTHER WISE STATED..
- 4. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

E	ENAR PETROTECH SERVICES Job No. 14-0162						
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.	
0	05-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS	



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OIL & GAS DEVELOPMENT COMPANY LIMITED DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

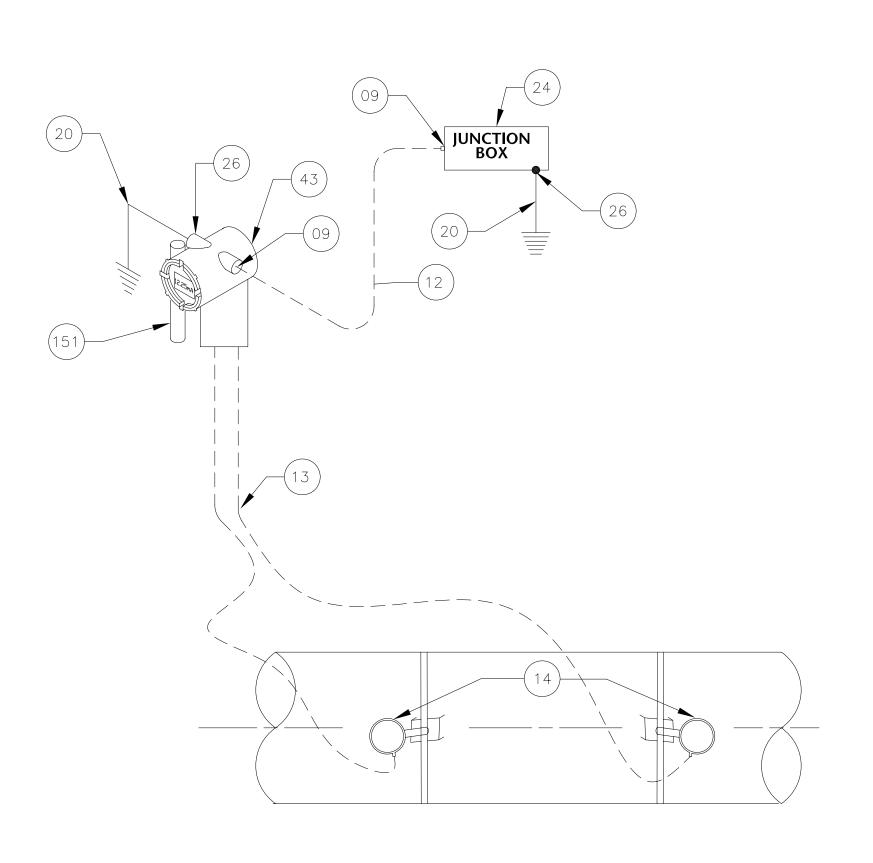
TYPICAL HOOK-UP DIAGRAM FOR LEVEL SWITCH

COMPUTER 0162-IMB-6331-0 LEVEL SWITCH

REPLACES
DWG. NO.

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0162-IMB-6331



	MATERIAL FOR INSTALLATION	
ITEM No	DESCRIPTION	QTY
09	EExd/e IIC T6 CABLE GLAND WITH BLACK SHROUD 20S M20	_
12	INSTRUMENT CABLE OUTER SHEATH BLACK 1 x 2 x 1.5mm²	-
24	EExd/e JUNCTION BOX	=
43	ULTRASONIC FLOWMETER	01 Nos
	CENTROSINO FEORMETER	01 1100
20	YELLOW GREEN 4mm ² EARTHING CONDUCTOR	05 Mtr
26	EARTHING LUGS	02 Nos
454	INSTRUMENT PIPE SUPPORT 2" CS GALVANIZED	04.11
151	INSTRUMENT PIPE SUPPORT 2 CS GALVANIZED	01 Nos
13	SENSOR CABLE	_
14	CLAMP ON SENSOR	02 Nos

	APPLICABLE TAG NO.					
.NO	TAGS	P & ID No.				
1	902-UFM-01	2310-PB-2063				

- 1. ALL DIMENSION ARE IN MM UNLESS OTHER WERE STATED.
- 2. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

$\overline{}$	ENAR PETROTECH SERVICES	Job I	No. 1	4 O1	63
DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
06-01-17	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	NAS
	DATE	DATE DESCRIPTION OF REVISION	DATE DESCRIPTION OF REVISION DRAWN ENAR PETROTECH SERVICES Job	DATE DESCRIPTION OF REVISION DRAWN DESIGNED ENAR PETROTECH SERVICES Iob No. 1	DATE DESCRIPTION OF REVISION DRAWN DESIGNED CHECKED ENAR PETROTECH SERVICES IOD NO. 14 01



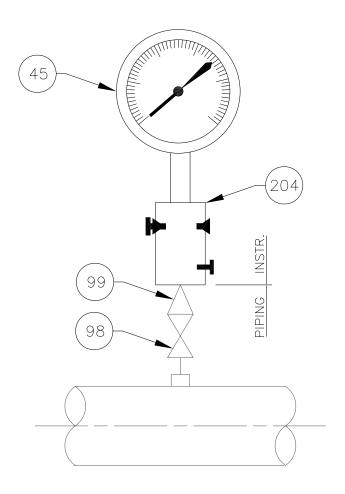
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Dwg. No. 0162-IMB-6332

OIL & GAS DEVELOPMENT COMPANY LIMITED DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT

COMPUTER CODE 0162-IMB-6332-0
SHEET SIZE A4
SCALE 1:1
REPLACES DWG. NO.

TYPICAL HOOK-UP DIAGRAM FOR ULTRASONIC FLOWMETER



	MATERIAL FOR INSTALLATION		
ITEM No	DESCRIPTION	C	YT(
204	316 SS 2 VALVE MANIFOLD 1/2" NPTF	01	Nos
45	PRESSURE GAUGE	01	Nos
98	3/4" NPTF ISOLATION VALVE	01	Nos
99	3/4"x 1/2" NPTM SWAGE NIPPLE	01	Nos

S.NO.	DESCRIPTION	P & ID No
1	20-PI-15	E3588-20005A
2	40-PI-15	E3588-40005B-D1
3	50-PI-15	E3588-50005A (SH-1 OF 3)
4	50-PI-16	E3588-50005A (SH-1 OF 3)
5	60-PI-15	E3588-60005A-D1
6	60-PI-16	E3588-60005A-D1
7	60-PI-17	E3588-60005A-D1
8	100-PI-15	2310-PB-2070
9	805-PI-15	2310-PB-2057
10	805-PI-16	2310-PB-2057
11	805-PI-17	2310-PB-2057
12	805-PI-18	2310-PB-2057

NOTES:-

- 1. ALL DIMENSIONS ARE IN mm UNLESS OTHER WISE STATED.
- 2. INSTALLATION MATERIALS ARE SHOWN FOR ONE TAG ONLY.

ISSUED FOR REVIEW AND APPROVAL

0	10-01-2017	ISSUED FOR REVIEW AND APPROVAL	MAZ	WAS	NAS	MJL
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.



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Job No. 14-0162

Dwg. No.

OIL & GAS DEVELOPMENT COMPANY LIMITED 0162-IMB-6333

DAKHNI GAS PLANT INSTRUMENT UPGRADATION PROJECT UPGRADATION PROJECT

COMPUTER O 162-IMB-6333-0

CODE SIZE A4

SCALE 1:1

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