

ภาคผนวก ข-31

การตรวจสอบ

CONTROL VALVE MAINTENANCE REPORT

Job No. : 6407058
Customer : LINDE HYCO LTD.
Plant : Hyco
Date : 2-Nov-2021

Customer / ลูกค้า	
รับทราบและเห็นดีรับเอกสาร	
ลายเซ็น	<i>Comkit S.</i>
วันที่	25/11/2021

Control Valve Maintenance Report



Customer	LINDE HYCO LTD.	Report No.	6411015
Tag No.	FV-10002	Job/Service No.	6407058
Plant	Hyco	Date	04-Nov-2021

Equipment Data

Brand	SAMSON	Actuator Type	3271	Positioner Model	SEIMENS PS2 6DR5010
Model No.	241-1	Actuator Size	350 cm2	Serial No.	N1-P4-237526818
Serial No.	454896	Position	01	Bench Range	1.4-2.3 Bar
Body Type	3241	Body Size	2 Inch	Preload Range	-
Body Rating	CL300	Body Matl.	A216 WCB	Stroke	15 mm.
Extension	-	Action	Fail close	Limit Switch	-
● Cv ○ Kvs	20	Characteristic	EQ%	* Handwheel	○ Yes ● No
Sealing	ME	Flow Divider	-	Lockup Valve	-
Leakage Class	IV	Trim Material	1.4006	Quick Exhaust	-
		Speed Cont.	-	Regulator	4708-1152
				Booster	-
				Position TX	-
				Position TX S/N	-

Action Taken

Body	Actuator	Positioner
<input type="checkbox"/> Replacement Parts (See list below)	<input type="checkbox"/> Replacement Parts (See list below)	<input type="checkbox"/> Replacement Parts (See list below)
<input type="checkbox"/> Plug and Seat Lapping	<input checked="" type="checkbox"/> Leakage test	<input checked="" type="checkbox"/> Pre-function test
<input type="checkbox"/> Flange machining	<input type="checkbox"/> Check spring range	<input checked="" type="checkbox"/> Calibration
<input type="checkbox"/> Leakage test	<input type="checkbox"/> Change function	<input type="checkbox"/> Cleaning
<input type="checkbox"/> Tightness test	<input type="checkbox"/> Cleaning	<input type="checkbox"/> Painting
<input type="checkbox"/> Hydrostatic test	<input type="checkbox"/> Painting	Function test
<input type="checkbox"/> Cleaning	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Solenoid valve
<input type="checkbox"/> Painting		<input type="checkbox"/> Limit switches

Testing

Item	Action	Test Medium	Actuator pressure	Test pressure	Standard Leakage	Actual value	Leakage class	Result
1	Seat leakage Before							
2	Seat leakage After							
3	Hydrostatic test							
4	Tightness test							
5	Actuator							

Remark :-

Step	Input			Before calibration				After calibration			
	Input %	Signal mA	Reading %	Value		Error		Value		Error	
				Up	Down	Up	Down	Up	Down	Up	Down
1	0	4	0	0.4	0.6	-0.4	-0.6	0	0	0.0	0.0
2	25	8	25	24.9	25.0	0.1	0.0	24.9	25.0	0.1	0.0
3	50	12	50	50.0	50.0	0.0	0.0	50.0	50.1	0.0	-0.1
4	75	16	75	75.1	75.1	-0.1	-0.1	75.0	75.1	0.0	-0.1
5	100	20	100	99.9	99.9	0.1	0.1	99.9	99.9	0.1	0.1

Plug start at = -

Stroke Timing Close to open = -

Open to close = -

List of parts changed

Item	Part No.	Part Name	Q'ty
1	Local part	Pressure gauge positioner	1 Pce

Item	Part No.	Part Name	Q'ty

Note : Pressure gauge positioner damage.

Customer	Samson
Witness by	Service by 1st : Dumrong W.
Approved by	Service by 2nd : 13-Nov-21.
Date 25/11/21	Service date 04-Nov-2021

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Parameter name	Display	Function	Parameter values	Unit	Factory setting	Customer setting
1.YFCT	1 YFCT	Type of actuator	turn (part-turn actuator) WAY (linear actuator) LWAY (linear actuator without sine correction) ncSt (part-turn actuator with NCS) -ncSt (ditto, inv. direction of action) ncSL (linear actuator with NCS)		WAY	WAY
2.YAGL ¹⁾	2 YAGL	Rated angle of rotation of feedback Set transmission ratio selector (7) appropriately (see view of device)	90° 33°	Degrees	33°	33°
2) 3.YWAY	3 YWAY	Stroke range (optional setting) When used, the value must correspond with the set of the leverage ratio on the actuator Driver pin must be set to the value of the actuator travel or, if this value is not scaled, to the next larger scale value.	SEE 5 10 15 20 (short lever 33°) 25 30 35 (short lever 90°) 40 50 60 70 80 110 130 (long lever 90°)	mm	OFF	15.0
4.INITA	4 INITA	Initialization (automatically)	no/n no / ###.# Strt		no	14.2
5.INITM	5 INITM	Initialization (manually)	no/n no / ###.# Strt		no	14.2
6.SCUR	6 SCUR	Current range of setpoint 0 to 20 mA 4 to 20 mA	0 MA 4 MA		4 MA	4MA
7.SDIR	7 SDIR	Setpoint direction rising falling	rSE FALL		rSE	riSE
8.SPRA	8 SPRA	Setpoint for start of split range	0,0 to 100,0	%	0,0	0
9.SPRE	9 SPRE	Setpoint for end of split range	0,0 to 100,0	%	100	100
10.TSUP	10 TSUP	Setpoint ramp up	Auto 0 to 400	s	0	0
11.TSDO	11 TSDO	Setpoint ramp down	0 to 400	s	0	0.0
12.SFCT	12 SFCT	Setpoint function Linear Equal-percentage 1:25, 1:33, 1:50 Inverse equal-percentage 1:25, 1:33, 1:50 Freely adjustable	Lin 1- 25 1- 33 1- 50 n1- 25 n1- 33 n1- 50 FREE		Lin	Lin
13.SL0 14.SL1 usw. bis 32.SL19 33.SL20 3)	13 SL0 (example)	Setpoint turning point at 0% 5% to 95% 100%	0,0 to 100,0	%	0,0 5,0 etc. to 95,0 100,0	
34.DEBA	34 DEBA	Dead zone of controller	Auto 0,1 to 10,0	%	Auto	Auto
35.YA	35 YA	Start of manipulated variable limiting	0,0 to 100,0	%	0,0	0,0
36.YE	36 YE	End of manipulated variable limiting	0,0 to 100,0	%	100,0	100
37.YNRM	37 YNRM	Standardization of manipulated variable To mech. travel To flow	MPOS FLOW		MPOS	MPOS
38.YDIR	38 YDIR	Direction of manipulated variable for display Rising Falling	rSE FALL		rSE	riSE
39.YCLS	39 YCLS	Tight closing with manipulated variable Without Top only Bottom only Top and bottom	no uP dO uP dO		no	dO
40.YCDO	40 YCDO	Value for tight closing, bottom	0,0 to 100,0	%	0,5	0,5
41.YCUP	41 YCUP	Value for tight closing, top	0,0 to 100,0	%	99,5	99,5
42.BIN1 ⁴⁾	42 BIN1	Function of BI 1 None Only message Block configuring Block configuring and manual Drive valve to position up Drive valve to position down Block movement	OFF on bLoc1 bLoc2 uP doWn -doWn -StoP NO contact NC contact		OFF	OFF
43.BIN2 ⁴⁾	43 BIN2	Function of BI 2 None Only message Drive valve to position up Drive valve to position down Block movement	OFF on uP doWn StoP -uP -doWn -StoP NO contact NC contact		OFF	OFF
44.AFCT ⁵⁾	44 AFCT	Alarm function Without A1=min, A2=max A1=min, A2=min A1=max, A2=max	OFF normal inverted		OFF	OFF
45.A1	45 A1	Response threshold of alarm 1	0,0 to 100,0	%	10,0	10,0
46.A2	46 A2	Response threshold of alarm 2	0,0 to 100,0	%	90,0	90,0
47.YFCT ⁵⁾	47 YFCT	Function of alarm output on fault Fault + not automatic Fault + not automatic + BI ("+" means logical OR operation)	normal inverted			
48.YTIM	48 YTIM	Monitoring time for fault message "control deviation"	Auto 0 to 100	s	Auto	Auto
49.YLIM	49 YLIM	Response threshold for fault message "control deviation"	Auto 0,0 to 100,0	%	Auto	Auto
50.YSTRK	50 YSTRK	Limit for stroke integral	OFF 1 to 1,00E9		OFF	OFF
51.YDCHG	51 YDCHG	Limit for direction change	OFF 1 to 1,00E9		OFF	OFF
52.YZERO	52 YZERO	Limit for end stop monitoring, bottom	OFF 0,0 to 100,0	%	OFF	OFF
53.YOPEN	53 YOPEN	Limit for end stop monitoring, top	OFF 0,0 to 100,0	%	OFF	OFF
54.YDEBA	54 YDEBA	Limit for dead zone monitoring	OFF 0,0 to 10,0	%	OFF	OFF
55.PRST	55 PRST	Preset (factory setting) "no" nothing activated "Strt" start of factory setting after pressing key for 5 s "oCAY" display following successful factory setting CAUTION: preset results in "NO INIT"	no Strt oCAY			no

1) If "lum" is selected, you cannot set 33°

2) Parameter does not appear if 1.YFCT=lum has been selected

3) Turning points only appear with selection 12.SFCT = FREE

4) NC contact means: action with opened switch or Low level

NO contact means: action with closed switch or High level

5) Normal means:

Inverted means:

High level without fault

Low level without fault

Control Valve Maintenance Report



Customer	<u>LINDE HYCO LTD.</u>	Report No.	<u>6411016</u>
Tag No.	<u>FV-10005</u>	Job/Service No.	<u>6407058</u>
Plant	<u>Hyco</u>	Date	<u>04-Nov-2021</u>

Equipment Data

Brand	SAMSON	Actuator Type	3271	Positioner Model	4763-10110011110.03
Model No.	241-1	Actuator Size	120 cm2	Serial No.	1015991
Serial No.	454896/01	Position	02	Bench Range	1.4-2.3 Bar
Body Type	3241	Body Size	1 Inch	Preload Range	-
Body Rating	CL 300	Body Matl.	A216 WCB	Stroke	15 mm.
Extension	-	Action	Fail close	Solenoid Model	NORGREN
● Cv ○ Kvs	5	Characteristic	EQ%	Solenoid SN	B4026
Sealing	Stellited	* Handwheel	○ Yes ● No	Limit Switch	-
Leakage Class	IV	Lockup Valve	-	Limit Switch S/N	-
		Quick Exhaust	-	Regulator	4708-1152
		Speed Cont.	-	Booster	-
				Position TX	-
				Position TX S/N	-

Action Taken

Body	Actuator	Positioner
<input type="checkbox"/> Replacement Parts (See list below)	<input type="checkbox"/> Replacement Parts (See list below)	<input type="checkbox"/> Replacement Parts (See list below)
<input type="checkbox"/> Plug and Seat Lapping	<input checked="" type="checkbox"/> Leakage test	<input checked="" type="checkbox"/> Pre-function test
<input type="checkbox"/> Flange machining	<input type="checkbox"/> Check spring range	<input checked="" type="checkbox"/> Calibration
<input type="checkbox"/> Leakage test	<input type="checkbox"/> Change function	<input type="checkbox"/> Cleaning
<input type="checkbox"/> Tightness test	<input type="checkbox"/> Cleaning	<input type="checkbox"/> Painting
<input type="checkbox"/> Hydrostatic test	<input type="checkbox"/> Painting	Function test
<input type="checkbox"/> Cleaning	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Solenoid valve
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Testing

Item	Action	Test Medium	Actuator pressure	Test pressure	Standard Leakage	Actual value	Leakage class	Result
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2	25	8	25	20	20	5.0	5.0	25	25	0.0	0.0
3	50	12	50	40	40	10.0	10.0	50	50	0.0	0.0
4	75	16	75	60	60	15.0	15.0	75	75	0.0	0.0
5	100	20	100	80	80	20.0	20.0	100	100	0.0	0.0

Plug start at = -

Stroke Timing Close to open = -

Open to close = -

List of parts changed

Item	Part No.	Part Name	Q'ty
1	Local part	Pressure gauge regulator	1 Pce
2	Local part	Pressure gauge positioner x2	1 Set

Item	Part No.	Part Name	Q'ty

Note : Pressure gauge regulator damage and positioner x2.

Customer Lincolt S. Date 25/11/21
 Witness by Assad M. Date 25/11/21
 Approved by Assad M. Date 25/11/21

Samson
 Service by 1st : Dumrong W. Service date
 Service by 2nd : Suk 04-Nov-2021
23-Nov-21.

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FV10005/Positioner 4763 ໂປຣແກຼມ Parameter

Parameter name	Display	Function	Parameter values	Unit	Factory setting	Customer setting
1.YFCT	1 YFCT	Type of actuator	tum (part-tum actuator) WAY (linear actuator) LWAY (linear actuator without sine correction) ncSt (part-tum actuator with NCS) -ncSt (ditto, inv. direction of action) ncSL (linear actuator with NCS)		WAY	WAY
2.YAGL ¹⁾	2 YAGL	Rated angle of rotation of feedback Set transmission ratio selector (7) appropriately (see view of device)	90° 33°	Degrees	33°	33°
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4.INITA	4 INITA	Initialization (automatically)	noini no / ### # Strt		no	15
5.INITM	5 INITM	Initialization (manually)	noini no / ### # Strt		no	15
6.SCUR	6 SCUR	Current range of setpoint 0 to 20 mA 4 to 20 mA	0 MA 4 MA		4 MA	4MA
7.SDIR	7 SDIR	Setpoint direction rising falling	rSE FALL		rSE	riSE
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11.TSDO	11 TSDO	Setpoint ramp down	0 to 400	s	0	0,0
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13.SL0 14.SL1 USW.bis 32.SL19 33.SL20	3) 13 SL0 14 SL1 (example)	Setpoint turning point at 0% 5% to 95% 100%	0,0 to 100,0	%	0,0 5,0 etc. to 95,0 100,0	
34.DEBA	34 DEBA	Dead zone of controller	Auto 0,1 to 10,0	%	Auto	Auto
35.YA	35 YA	Start of manipulated variable limiting	0,0 to 100,0	%	0,0	0,0
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40.YCDO	40 YCDO	Value for tight closing, bottom	0,0 to 100,0	%	0,5	0,5
41.YCUP	41 YCUP	Value for tight closing, top	0,0 to 100,0	%	99,5	99,5
42.BIN1 ⁴⁾	42 BIN1	Function of BI 1 None Only message Block configuring Block configuring and manual Drive valve to position up Drive valve to position down Block movement	OFF on bLoc1 bLoc2 uP doWn StoP NO contact NC contact		OFF	OFF
43.BIN2 ⁴⁾	43 BIN2	Function of BI 2 None Only message Drive valve to position up Drive valve to position down Block movement	OFF on uP doWn StoP NO contact NC contact		OFF	OFF
44.AFCT ⁵⁾	44 AFCT	Alarm function Without A1=min, A2=max A1=min, A2=min A1=max, A2=max	OFF normal inverted		OFF	OFF
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52.YZERO	52 YZERO	Limit for end stop monitoring, bottom	OFF 0,0 to 100,0	%	OFF	OFF
53.YOPEN	53 YOPEN	Limit for end stop monitoring, top	OFF 0,0 to 100,0	%	OFF	OFF
54.YDEBA	54 YDEBA	Limit for dead zone monitoring	OFF 0,0 to 10,0	%	OFF	OFF
55.PRST	55 PRST	Preset (factory setting) "no" nothing activated "Strt" start of factory setting after pressing key for 5 s "oCAY" display following successful factory setting CAUTION: preset results in "NO INIT"	no Strt oCAY			no

1) If "tum" is selected, you cannot set 33°

2) Parameter does not appear if 1.YFCT=tum has been selected

3) Turning points only appear with selection 12.SFCT = FREE

4) NC contact means: action with opened switch or Low level

NO contact means: action with closed switch or High level

5) Normal means:

Inverted means: