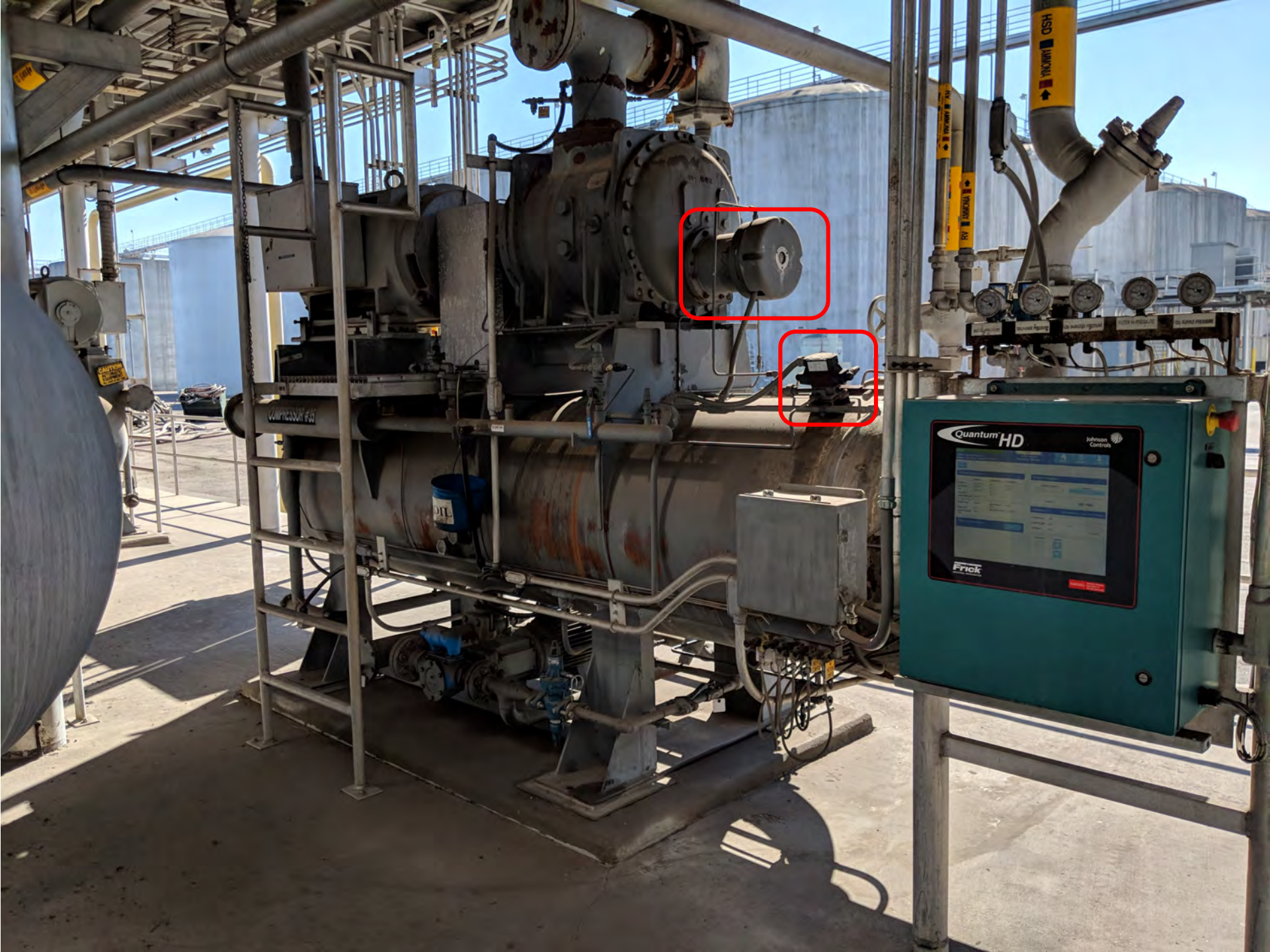
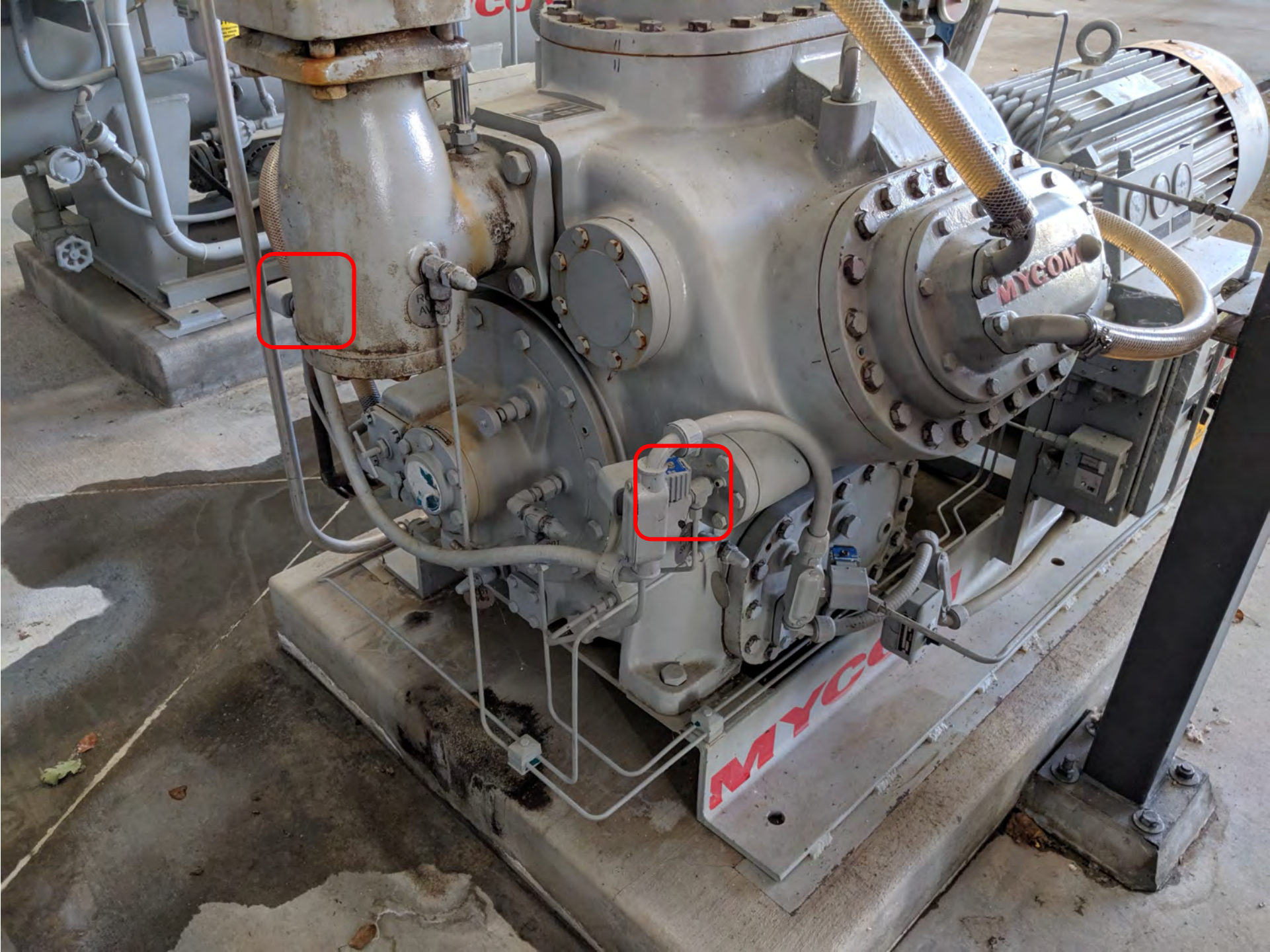




ITM Task Description	Frequency		
Inspection	Screw	Recip	Rotary Vane
a) Runtime hours	WA-D	WA-D	WA-D
b) Suction pressure	D	D	D
c) Discharge pressure	D	D	D
d) Oil pressure	D	D	D
e) Oil temperature	D	WA-D	D
f) Discharge temperature	D	WA-D	D
g) Verify oil levels are adequate	D	D	D
h) Oil filter differential pressure	D	WA-D	NA
i) Oil leaks	D	D	D
j) Lubricator oil level and drip rate	NA	NA	D
k) Jacket cooling oil level	NA	NA	D
l) Determine shaft seal leak rate	WA-W	WA-W	WA-W
m) Indicator of Compressor Capacity	D	WA-D	WA-D
n) Motor amperage (current)	D	WA-D	WA-D
o) Recorded Alarms and Shutdowns	D	WA-D	WA-D
p) Free from abnormal sounds and excessive vibration	D	D	D

ITM Task	Frequency		
Inspection	Screw	Recip	Rotary Vane
q) Drive guard in place	D	D	D
r) Foundation solid, in place, and free from evidence of deterioration	A	A	A
s) Visually inspect mounting bolts are in place	A	A	A
t) Visually inspect metal surfaces for pitting or surface damage	A	A	A
u) Visually inspect coupling for wear	A	WA-A	WA-A
v) Visually inspect starter connections and associated timers and relays	A	A	A
w) Operation of oil heaters	A	A	A
x) Operation of unloader	M	M	M
y) Visually inspect alignment of compressor-motor drive shaft	A	A	A
Testing	Screw	Recip	Rotary Vane
Test safety shutdowns:			
a) Low suction pressure cutout	A	A	A
b) High discharge pressure cutout (HPCO) See Section 6.1.1	A	A	A



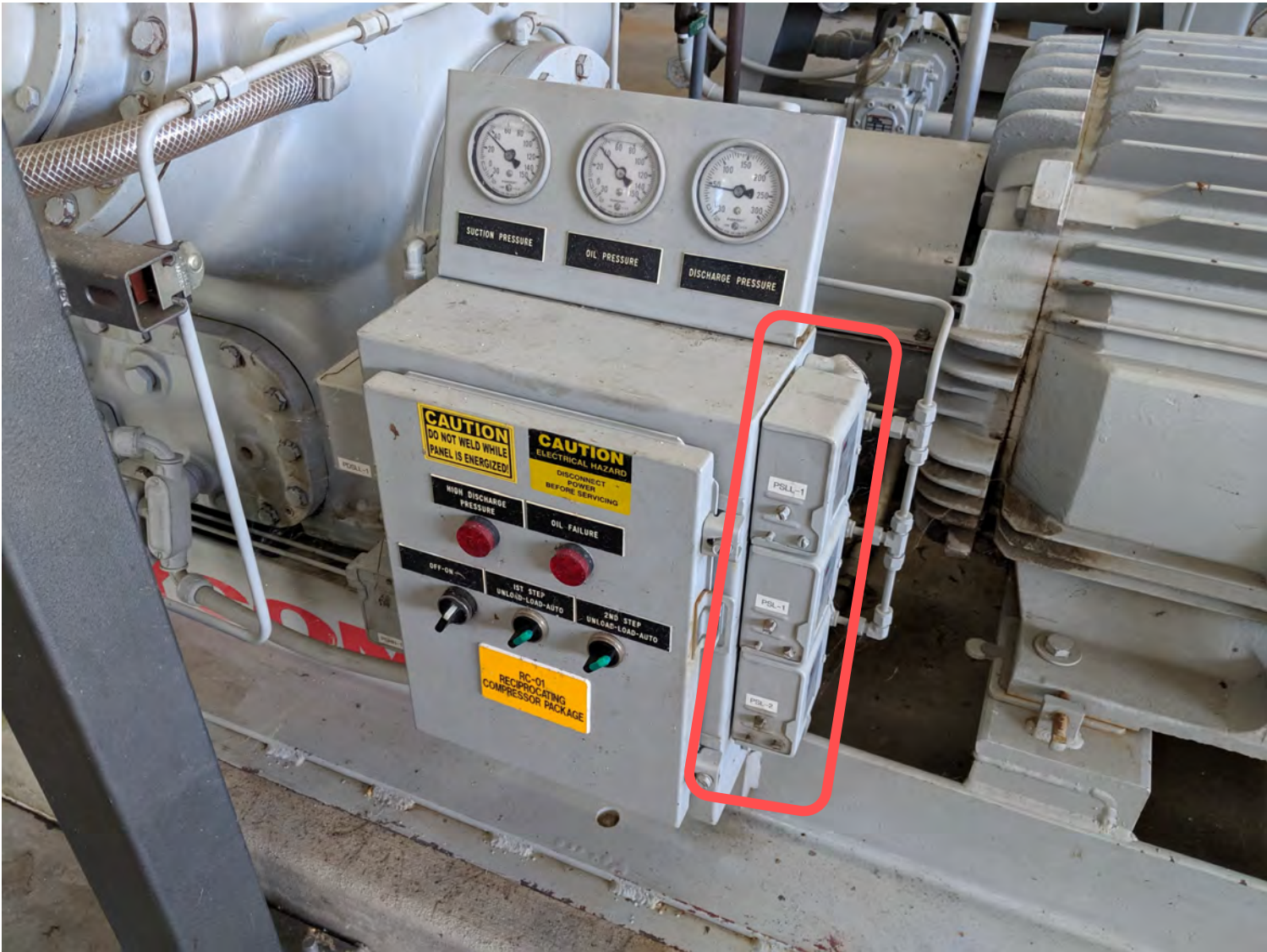


ITM Task Description	Frequency		
Inspection	Screw	Recip	Rotary Vane
a) Runtime hours	WA-D	WA-D	WA-D
b) Suction pressure	D	D	D
c) Discharge pressure	D	D	D
d) Oil pressure	D	D	D
e) Oil temperature	D	WA-D	D
f) Discharge temperature	D	WA-D	D
g) Verify oil levels are adequate	D	D	D
h) Oil filter differential pressure	D	WA-D	NA
i) Oil leaks	D	D	D
j) Lubricator oil level and drip rate	NA	NA	D
k) Jacket cooling oil level	NA	NA	D
l) Determine shaft seal leak rate	WA-W	WA-W	WA-W
m) Indicator of Compressor Capacity	D	WA-D	WA-D
n) Motor amperage (current)	D	WA-D	WA-D
o) Recorded Alarms and Shutdowns	D	WA-D	WA-D
p) Free from abnormal sounds and excessive vibration	D	D	D

ITM Task	Frequency		
Inspection	Screw	Recip	Rotary Vane
q) Drive guard in place	D	D	D
r) Foundation solid, in place, and free from evidence of deterioration	A	A	A
s) Visually inspect mounting bolts are in place	A	A	A
t) Visually inspect metal surfaces for pitting or surface damage	A	A	A
u) Visually inspect coupling for wear	A	WA-A	WA-A
v) Visually inspect starter connections and associated timers and relays	A	A	A
w) Operation of oil heaters	A	A	A
x) Operation of unloader	M	M	M
y) Visually inspect alignment of compressor-motor drive shaft	A	A	A
Testing	Screw	Recip	Rotary Vane
Test safety shutdowns:			
a) Low suction pressure cutout	A	A	A
b) High discharge pressure cutout (HPCO) See Section 6.1.1	A	A	A

Testing Compressor Safeties [§6.1.1]

- The function of the high discharge pressure shutdown safety device shall be tested by one of the following methods based on the type of device being used:
 - Electromechanical Switch [§6.1.1.1]
 - Pressure Transducer or Transmitter Connected to an Electronic Controller [§6.1.1.2]



s Inc.

Micro III

PARAMETERS

INLET OIL	
Inlet Oil Temp	
Lower	90.0 °F
OIL SEPARATOR	
Oil Separator Temp	
Upper	170.0 °F
Oil Separator Temp	
Lower	65.0 °F
DISCHARGE	
Discharge Pressure	
Maximum	180.0 Psi
Discharge Temp	
Upper	190.0 °F

CHANGE
DISPLAY



EDIT

CLEAR



COMPRESSOR CONTROL

STOP

SHUT-
DOWNS

PWR
FAIL
RESET

AUTO

OIL
PUMP

ALARMS

HOLD

7

8

4
D

5
E

Electromechanical Switch [§6.1.1.1]

- Functional testing of an electro-mechanical switch as a high-pressure limiting device requires proof of the three following characteristics:
 - 1. Function of the device to shut down an operating compressor.
 - 2. Function test setpoint shall be no more than 90% of the relief valve setting.
 - 3. Calibration of the device to show it functions within an accuracy of +/- 2.5% at the setpoint when compared to a pressure standard or a master gauge.

Electromechanical Switch [§6.1.1.1]

- **Permitted Test Methods:**
 - 1. Manipulation of discharge pressure to the cutout set point.
 - 2. Use of a check valve, a bleed valve, and an external pressure source.
- **Nonpermitted Test Methods:**
 - 1. Removal and bench testing of the switch.
 - 2. Isolation of a shutdown compressor, followed by pressurization.
 - 3. Reduce the cutout set point.

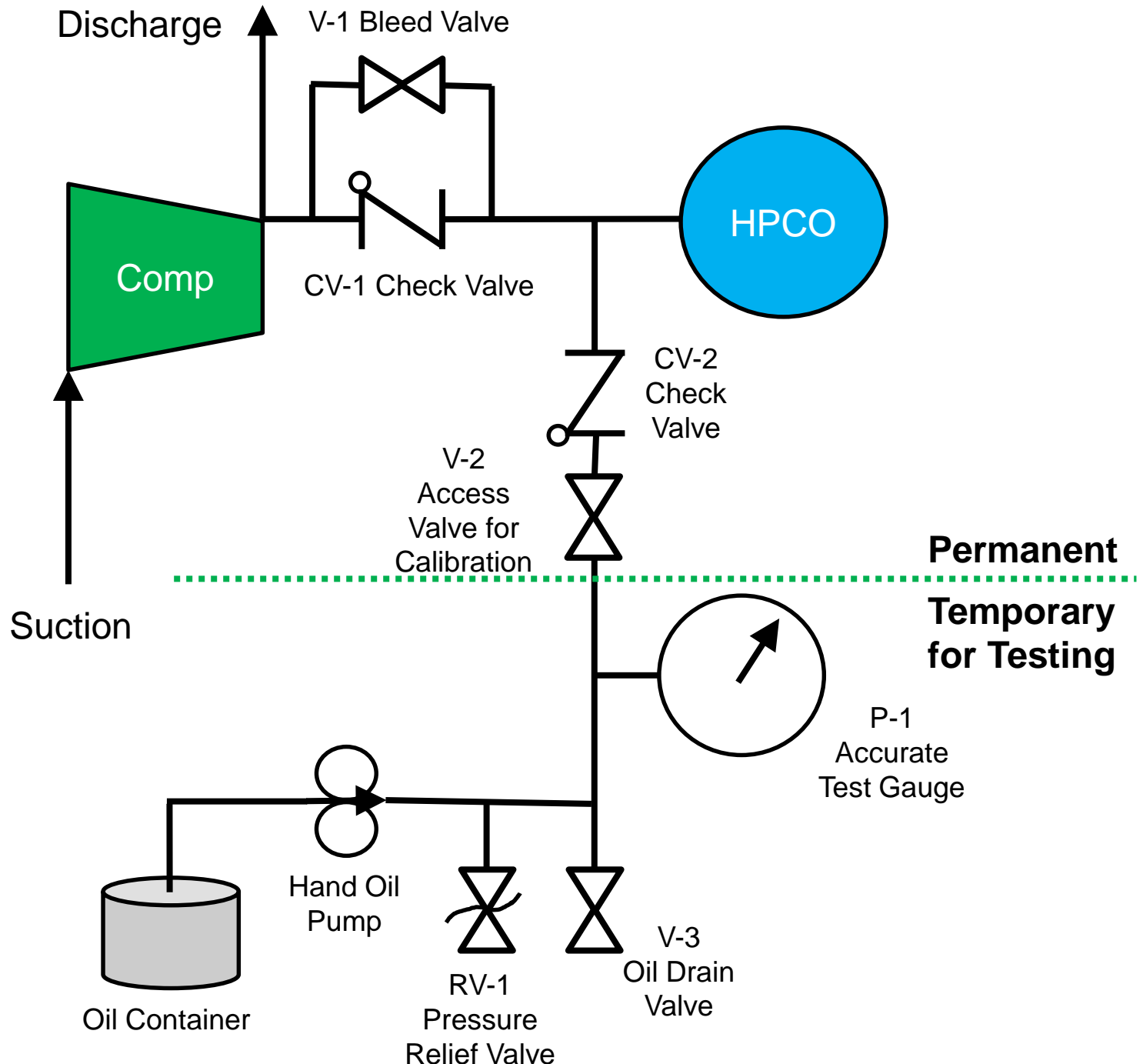
Pressure Transducer [§6.1.1.2]

- Functional testing of a pressure transducer or transmitter connected to an electronic controller as a pressure-limiting device requires proof of the three following characteristics:
 - 1. Function of the device to shut down an operating compressor after sensors are calibrated.
 - 2. Setpoint shall be no more than 90% of the relief valve setting.
 - 3. Calibration of the device to show it reads pressure within an accuracy of +/- 2.5% at the set point or at two pressures chosen to verify the accuracy of the calibration curve programmed into the controls, when compared to a pressure standard or a master gauge.

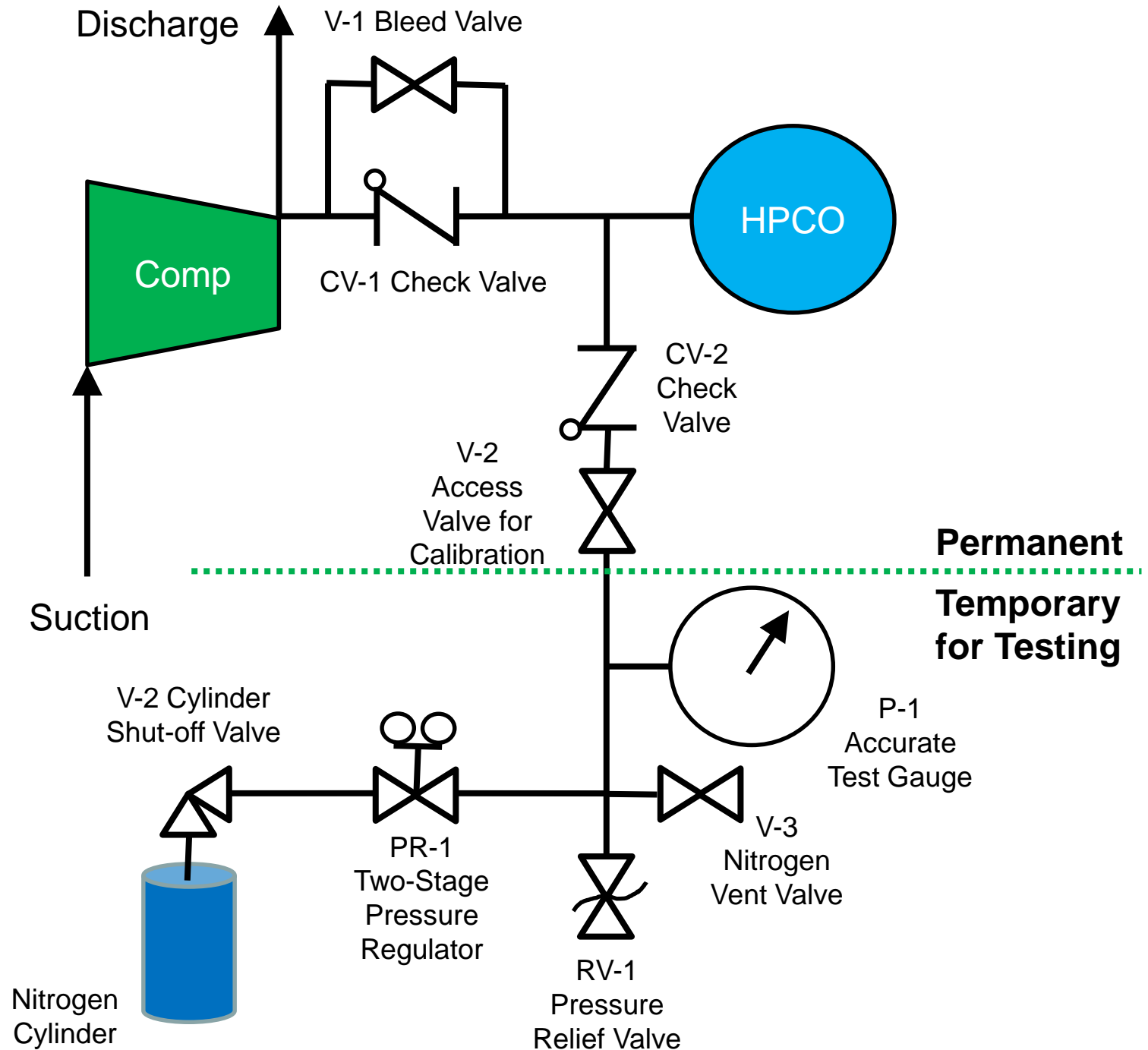
Pressure Transducer [§6.1.1.2]

- **Permitted Test Methods:**
 - 1. Manipulation of discharge pressure to the cutout set point.
 - 2. Reduce the cutout set point and raise the discharge pressure until shutdown occurs.
 - 3. Using a check valve, a bleed valve, and an external pressure source.
- **Nonpermitted Test Methods:**
 - 1. Removal and bench testing of the pressure transducer or transmitter.
 - 2. Isolation of a shutdown compressor, followed by pressurization.

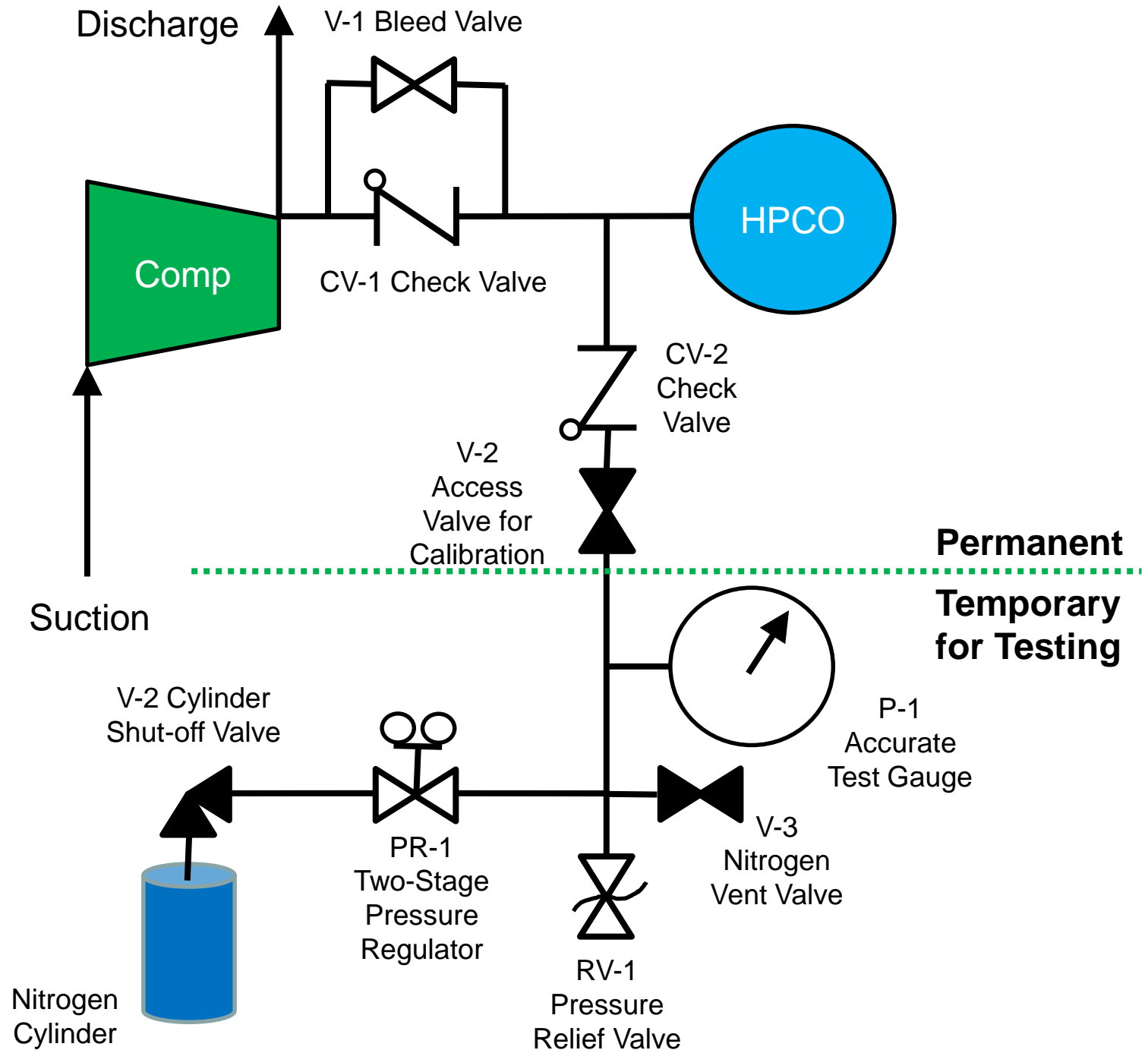
A.6.1.1.2
Figure 1

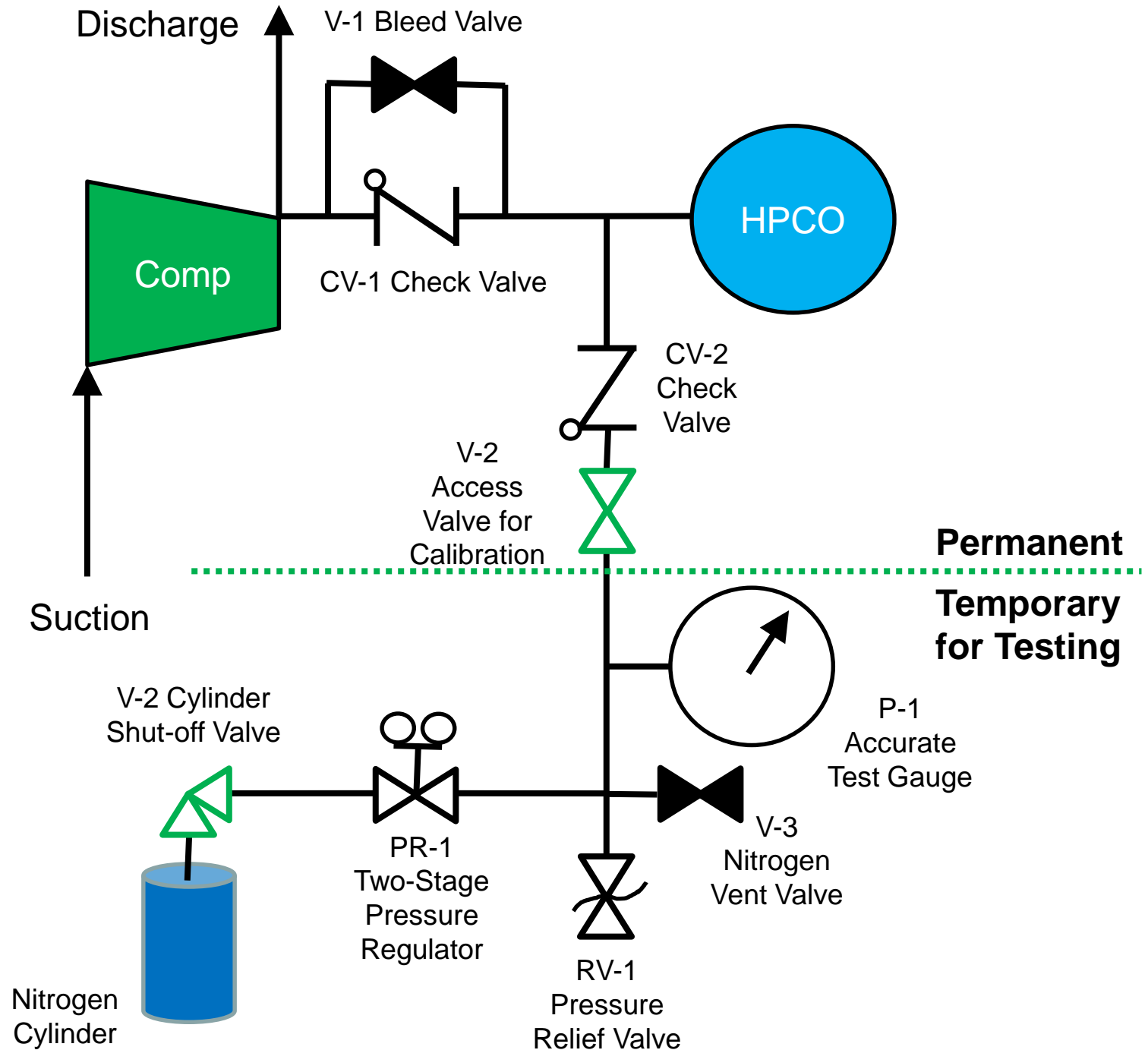


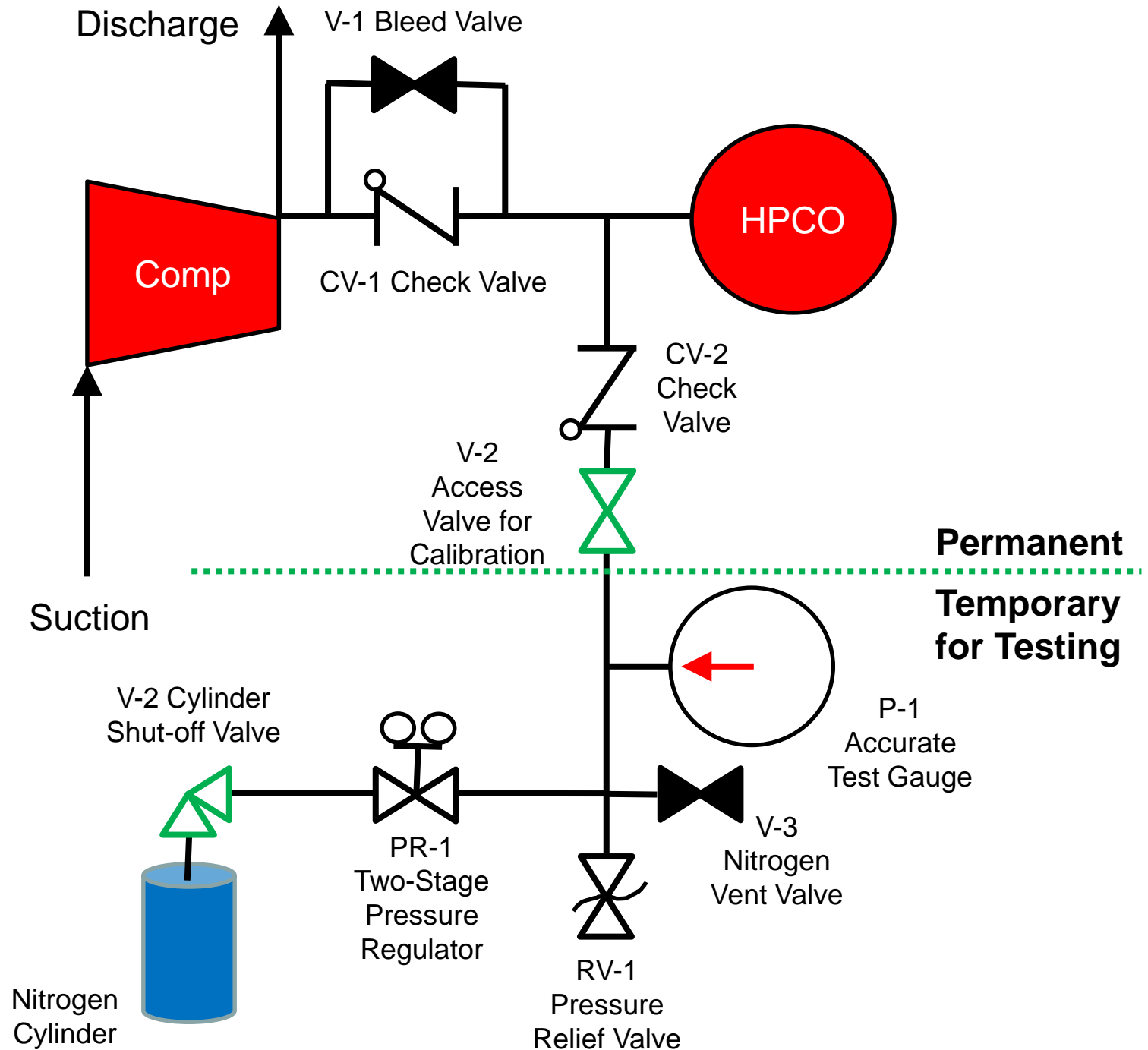
A.6.1.1.2
Figure 2

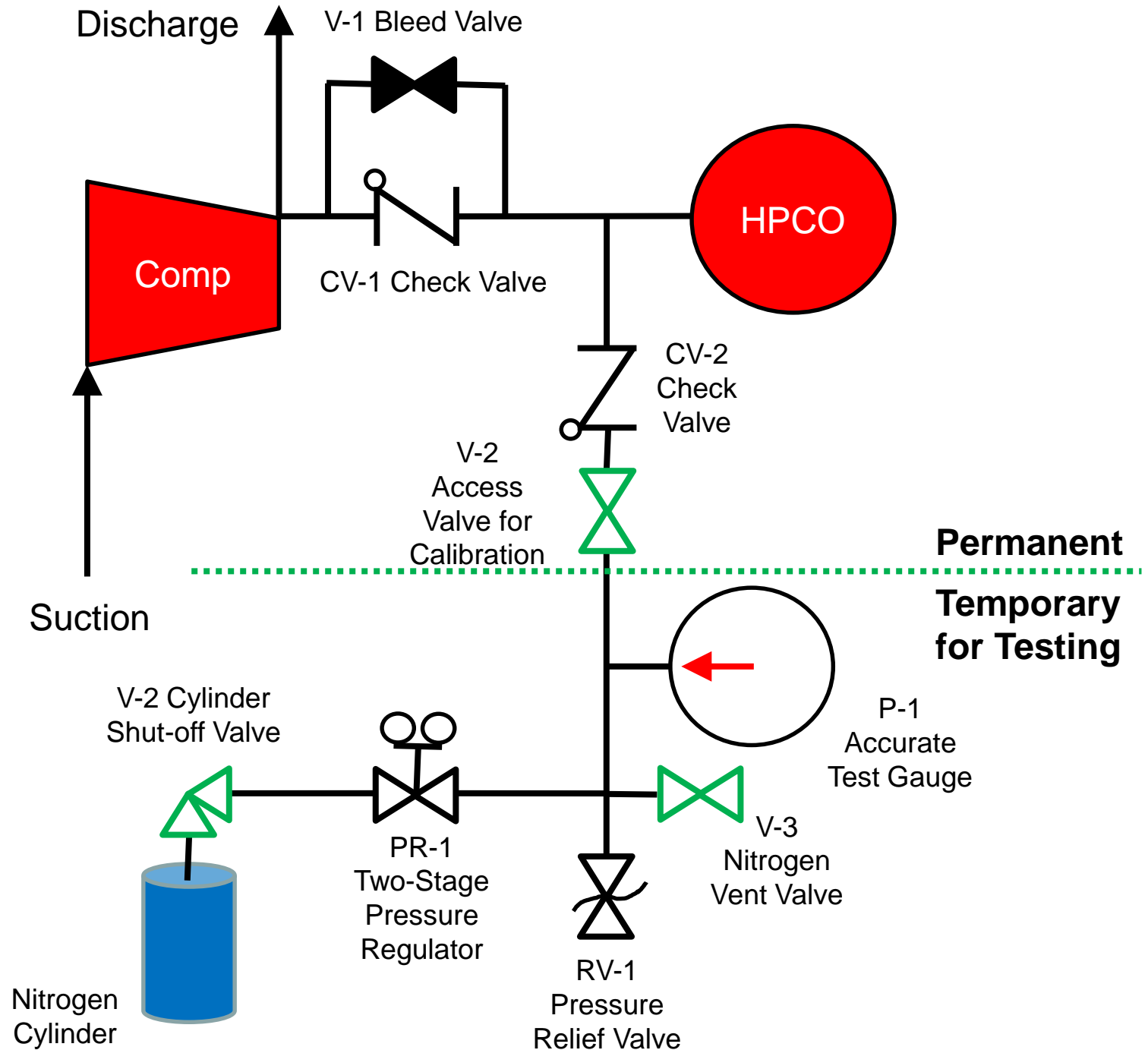


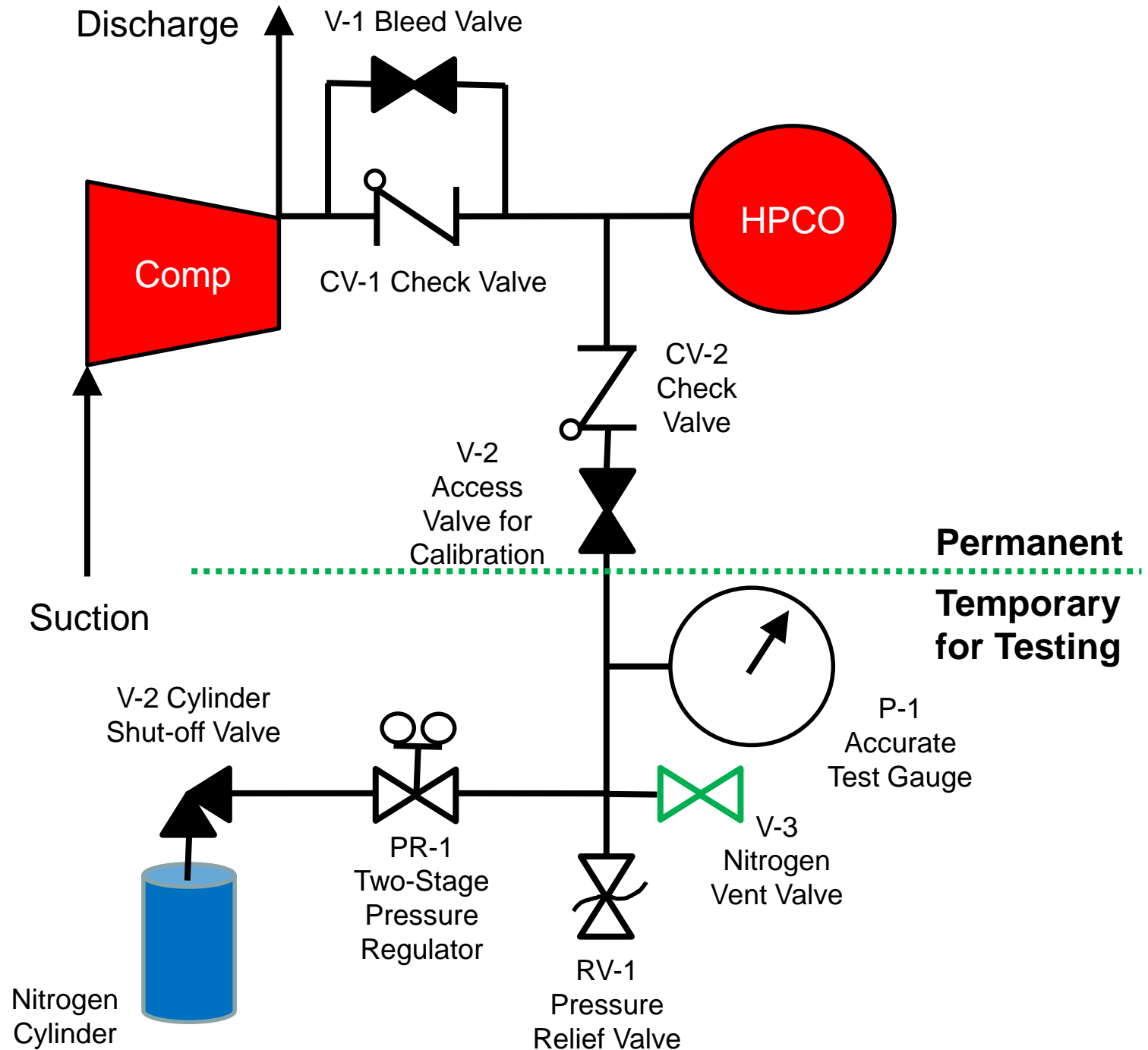
Normal Operation



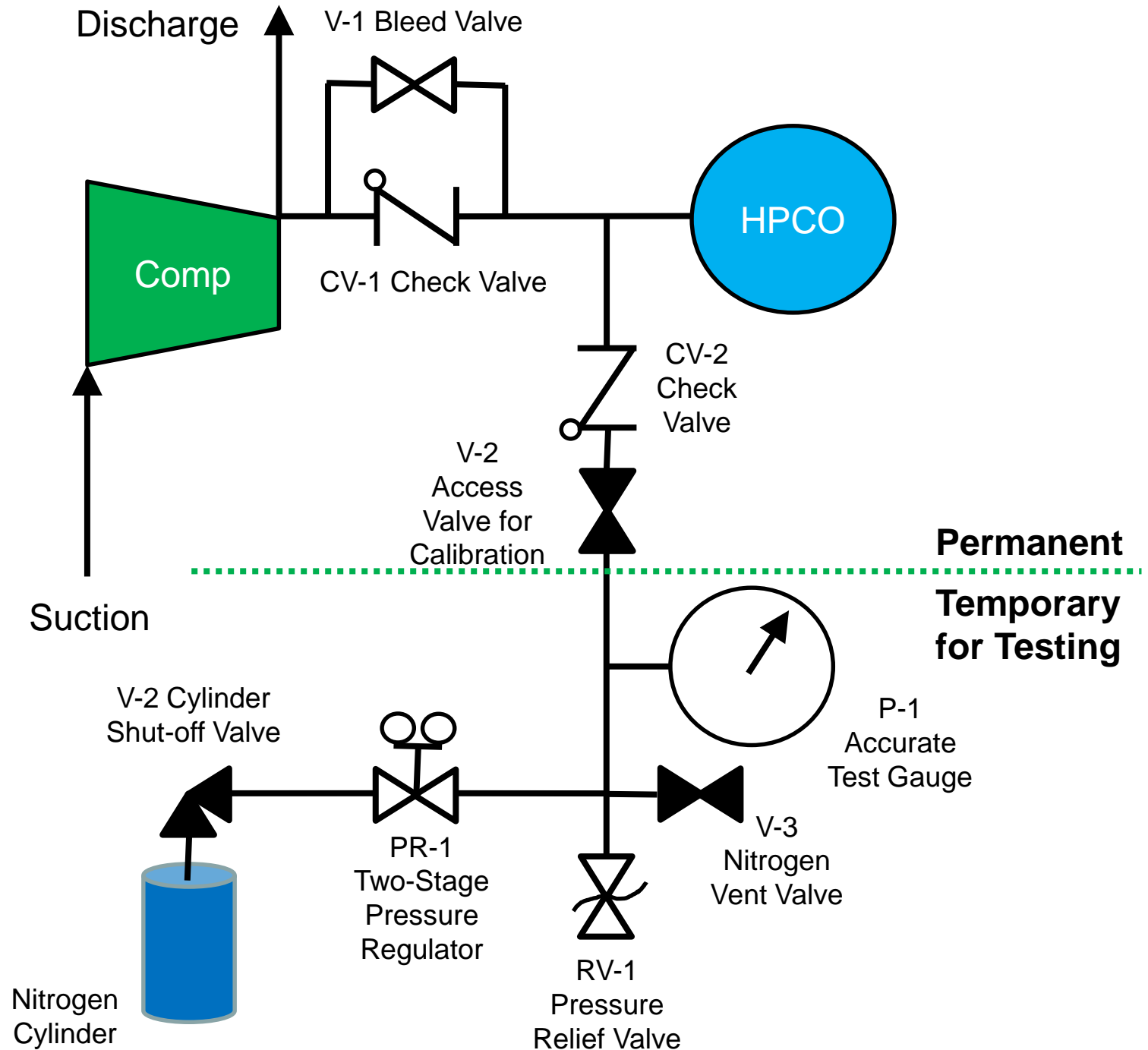








Normal Operation



ITM Task Description	Frequency		
Testing	Screw	Recip	Rotary Vane
c) High discharge temperature cutout	A	WA-A	A
d) Low oil pressure cutout	A	A	A
e) High liquid level cutout	A	A	A
Maintenance	Screw	Recip	Rotary Vane
a) Add Oil	As Needed		
b) Change oil filter	As indicated by ΔP , runtime hours, oil analysis, or A		
c) Clean external oil pump suction strainer	WA-5	WA-5	WA-5
d) Oil Analysis - Take oil sample and obtain oil analysis results from qualified testing lab [Not required if oil is changed on an Annual (A) frequency or a determined runtime hours frequency]	A or runtime hours		
e) Align external oil pump shaft	WA-5	WA-5	WA-5
f) Change oil	As indicated by oil analysis, predetermined runtime, or A		
g) Verify coupling bolts are in place	A	A	A

ITM Task	Frequency		
Maintenance	Screw	Recip	Rotary Vane
h) Replace shaft seal	When maximum pre-determined leak rate is approaching or reached		
i) Measure (hot) compressor-motor drive shaft alignment	A and Align when maximum pre-determined alignment parameters are exceeded		
j) Lubricate compressor and external oil pump electric motor bearings	WA-S	WA-S	WA-S
k) Remove electrical connection box cover and visually inspect insulation on motor leads	A	A	A
l) Verify integrity of control panel power supply and control circuit electrical connections	A	A	A
m) Verify integrity of starter connections and associated timers and relays	A	A	A
n) Calibrate pressure and temperature cutout devices (found in the previous Testing Section)	WA-A	WA-A	WA-A
o) Inspect for rotor axial play in motor-driven rotor shaft	A	WA-A	NA
p) Inspect pistons, rings, and plate valves	NA	WA-5 or hours	NA

s Inc.

Micro III

PARAMETERS

INLET OIL	
Inlet Oil Temp	
Lower	90.0 °F
OIL SEPARATOR	
Oil Separator Temp	
Upper	170.0 °F
Oil Separator Temp	
Lower	65.0 °F
DISCHARGE	
Discharge Pressure	
Maximum	180.0 Psi
Discharge Temp	
Upper	190.0 °F

CHANGE
DISPLAY



EDIT

CLEAR



COMPRESSOR CONTROL

STOP

SHUT-
DOWNS

PWR
FAIL
RESET

AUTO

OIL
PUMP

ALARMS

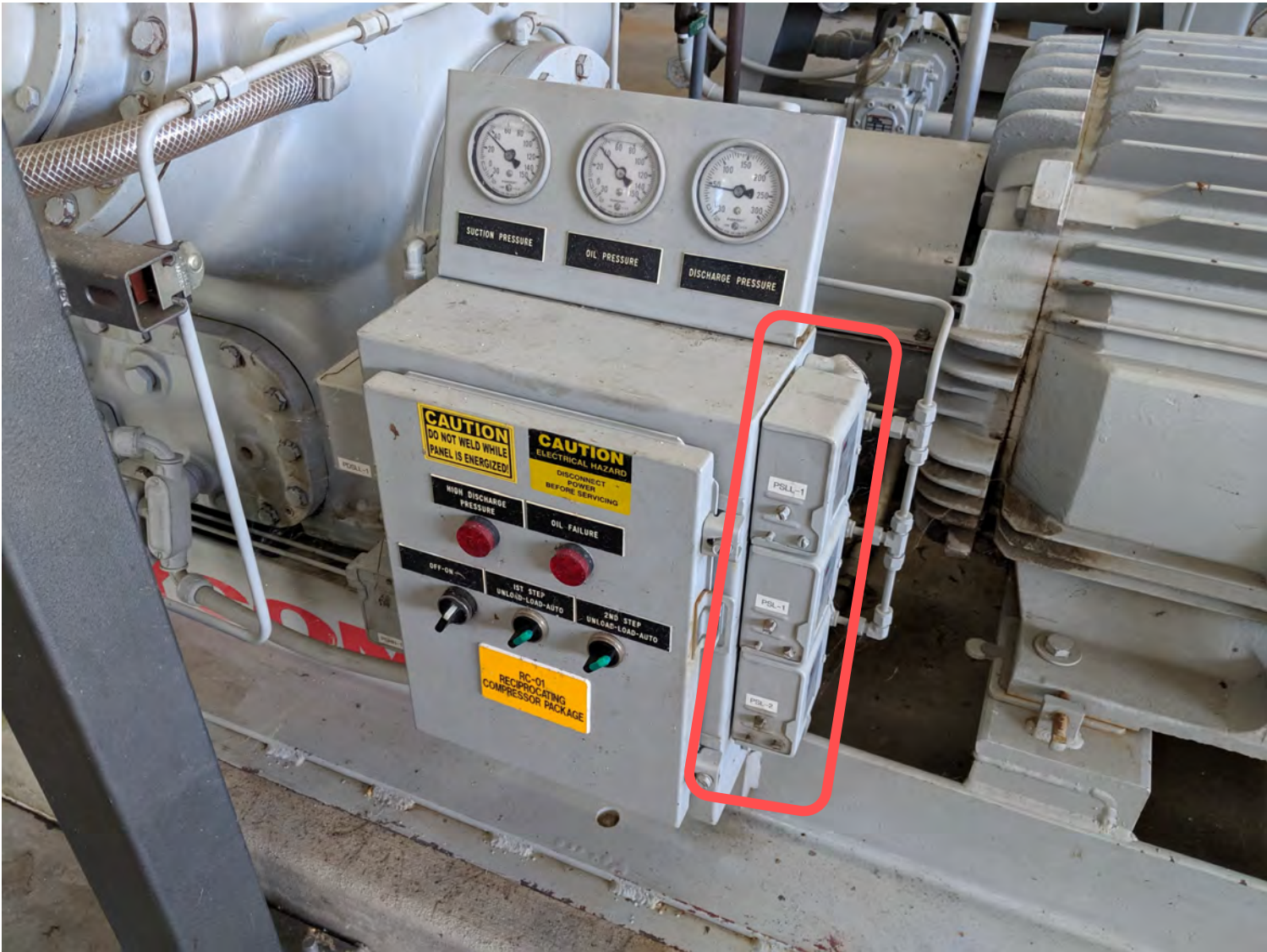
HOLD

7

8

4
D

5
E



ITM Task Description	Frequency		
Testing	Screw	Recip	Rotary Vane
c) High discharge temperature cutout	A	WA-A	A
d) Low oil pressure cutout	A	A	A
e) High liquid level cutout	A	A	A
Maintenance	Screw	Recip	Rotary Vane
a) Add Oil	As Needed		
b) Change oil filter	As indicated by ΔP , runtime hours, oil analysis, or A		
c) Clean external oil pump suction strainer	WA-5	WA-5	WA-5
d) Oil Analysis - Take oil sample and obtain oil analysis results from qualified testing lab [Not required if oil is changed on an Annual (A) frequency or a determined runtime hours frequency]	A or runtime hours		
e) Align external oil pump shaft	WA-5	WA-5	WA-5
f) Change oil	As indicated by oil analysis, predetermined runtime, or A		
g) Verify coupling bolts are in place	A	A	A

ITM Task	Frequency		
Maintenance	Screw	Recip	Rotary Vane
h) Replace shaft seal	When maximum pre-determined leak rate is approaching or reached		
i) Measure (hot) compressor-motor drive shaft alignment	A and Align when maximum pre-determined alignment parameters are exceeded		
j) Lubricate compressor and external oil pump electric motor bearings	WA-S	WA-S	WA-S
k) Remove electrical connection box cover and visually inspect insulation on motor leads	A	A	A
l) Verify integrity of control panel power supply and control circuit electrical connections	A	A	A
m) Verify integrity of starter connections and associated timers and relays	A	A	A
n) Calibrate pressure and temperature cutout devices (found in the previous Testing Section)	WA-A	WA-A	WA-A
o) Inspect for rotor axial play in motor-driven rotor shaft	A	WA-A	NA
p) Inspect pistons, rings, and plate valves	NA	WA-5 or hours	NA



ITM Task Description	Frequency		
Testing	Screw	Recip	Rotary Vane
c) High discharge temperature cutout	A	WA-A	A
d) Low oil pressure cutout	A	A	A
e) High liquid level cutout	A	A	A
Maintenance	Screw	Recip	Rotary Vane
a) Add Oil	As Needed		
b) Change oil filter	As indicated by ΔP , runtime hours, oil analysis, or A		
c) Clean external oil pump suction strainer	WA-5	WA-5	WA-5
d) Oil Analysis - Take oil sample and obtain oil analysis results from qualified testing lab [Not required if oil is changed on an Annual (A) frequency or a determined runtime hours frequency]	A or runtime hours		
e) Align external oil pump shaft	WA-5	WA-5	WA-5
f) Change oil	As indicated by oil analysis, predetermined runtime, or A		
g) Verify coupling bolts are in place	A	A	A

ITM Task	Frequency		
Maintenance	Screw	Recip	Rotary Vane
h) Replace shaft seal	When maximum pre-determined leak rate is approaching or reached		
i) Measure (hot) compressor-motor drive shaft alignment	A and Align when maximum pre-determined alignment parameters are exceeded		
j) Lubricate compressor and external oil pump electric motor bearings	WA-S	WA-S	WA-S
k) Remove electrical connection box cover and visually inspect insulation on motor leads	A	A	A
l) Verify integrity of control panel power supply and control circuit electrical connections	A	A	A
m) Verify integrity of starter connections and associated timers and relays	A	A	A
n) Calibrate pressure and temperature cutout devices (found in the previous Testing Section)	WA-A	WA-A	WA-A
o) Inspect for rotor axial play in motor-driven rotor shaft	A	WA-A	NA
p) Inspect pistons, rings, and plate valves	NA	WA-5 or hours	NA





ITM Task Description	Frequency		
Testing	Screw	Recip	Rotary Vane
c) High discharge temperature cutout	A	WA-A	A
d) Low oil pressure cutout	A	A	A
e) High liquid level cutout	A	A	A
Maintenance	Screw	Recip	Rotary Vane
a) Add Oil	As Needed		
b) Change oil filter	As indicated by ΔP , runtime hours, oil analysis, or A		
c) Clean external oil pump suction strainer	WA-5	WA-5	WA-5
d) Oil Analysis - Take oil sample and obtain oil analysis results from qualified testing lab [Not required if oil is changed on an Annual (A) frequency or a determined runtime hours frequency]	A or runtime hours		
e) Align external oil pump shaft	WA-5	WA-5	WA-5
f) Change oil	As indicated by oil analysis, predetermined runtime, or A		
g) Verify coupling bolts are in place	A	A	A

ITM Task	Frequency		
Maintenance	Screw	Recip	Rotary Vane
h) Replace shaft seal	When maximum pre-determined leak rate is approaching or reached		
i) Measure (hot) compressor-motor drive shaft alignment	A and Align when maximum pre-determined alignment parameters are exceeded		
j) Lubricate compressor and external oil pump electric motor bearings	WA-S	WA-S	WA-S
k) Remove electrical connection box cover and visually inspect insulation on motor leads	A	A	A
l) Verify integrity of control panel power supply and control circuit electrical connections	A	A	A
m) Verify integrity of starter connections and associated timers and relays	A	A	A
n) Calibrate pressure and temperature cutout devices (found in the previous Testing Section)	WA-A	WA-A	WA-A
o) Inspect for rotor axial play in motor-driven rotor shaft	A	WA-A	NA
p) Inspect pistons, rings, and plate valves	NA	WA-5 or hours	NA



RC01
FT01

PTI Technologies Inc.
SANTA ANA, CA 92705 TOLL FREE (800) 231-2701
PERFORMANCE SPIN-ON FILTER
CLEAN AND CLEAN GASKET GROOVE. APPLY
TIGHTEN AFTER GASKET SEALS.
CHECK FOR LEAKS.
SPECIFIED INTERVALS - 6 MONTHS
AT OPERATING TEMPERATURE.

1550
4-1-14

COM



ITM Task Description	Frequency		
Testing	Screw	Recip	Rotary Vane
c) High discharge temperature cutout	A	WA-A	A
d) Low oil pressure cutout	A	A	A
e) High liquid level cutout	A	A	A
Maintenance	Screw	Recip	Rotary Vane
a) Add Oil	As Needed		
b) Change oil filter	As indicated by ΔP , runtime hours, oil analysis, or A		
c) Clean external oil pump suction strainer	WA-5	WA-5	WA-5
d) Oil Analysis - Take oil sample and obtain oil analysis results from qualified testing lab [Not required if oil is changed on an Annual (A) frequency or a determined runtime hours frequency]	A or runtime hours		
e) Align external oil pump shaft	WA-5	WA-5	WA-5
f) Change oil	As indicated by oil analysis, predetermined runtime, or A		
g) Verify coupling bolts are in place	A	A	A

ITM Task	Frequency		
Maintenance	Screw	Recip	Rotary Vane
h) Replace shaft seal	When maximum pre-determined leak rate is approaching or reached		
i) Measure (hot) compressor-motor drive shaft alignment	A and Align when maximum pre-determined alignment parameters are exceeded		
j) Lubricate compressor and external oil pump electric motor bearings	WA-S	WA-S	WA-S
k) Remove electrical connection box cover and visually inspect insulation on motor leads	A	A	A
l) Verify integrity of control panel power supply and control circuit electrical connections	A	A	A
m) Verify integrity of starter connections and associated timers and relays	A	A	A
n) Calibrate pressure and temperature cutout devices (found in the previous Testing Section)	WA-A	WA-A	WA-A
o) Inspect for rotor axial play in motor-driven rotor shaft	A	WA-A	NA
p) Inspect pistons, rings, and plate valves	NA	WA-5 or hours	NA



Lubricant Analysis Report

North America: +1-877-808-3750



Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: 401110-8241-0645 Company Name: FOSTER FARMS (PORTERVILLE, CA) Contact: Address: Phone Number:	Component ID: HTC-2 Secondary ID: Component Type: AMMONIA SCREW COMPRESSOR Manufacturer: GEA Model: R-1 Application: PLANT/INDUSTRIAL Sump Capacity:	Tracking Number: 18178Y06697 Lab Number: I-115128 Lab Location: Indianapolis Data Analyst: CXW Sampled: 02-Oct-2018 Received: 09-Oct-2018 Completed: 10-Oct-2018
Filter Information	Miscellaneous Information	Product Information
Filter Type: Information Requested Micron Rating: 0	Miscellaneous: NONE	Product Manufacturer: Information Requested Product Name: Information Requested Viscosity Grade: Information Requested

Comments Data indicates no abnormal findings. Resample at normal interval.

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)				Additive Metals (ppm)						
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2

Sample #	Sample Information							Contaminants				Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100°C	Acid Number	Base No. D-4739	Oxidation	Nitration	
1	02-Oct-2018	09-Oct-2018	0	8221	No	0	No	% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm	
									< 1 - Hotplate		65.3		0.01				

Sample #	ISO Code Based On 4/6/14	Particle Count (particles/mL)								Test Method
		> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	
1	//									

Comments are advisory only and are based on the assumption that the sample and data submitted are valid. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.

Historical Comments



Lubricant Analysis Report

North America: +1-877-808-3750



Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: 401110-8241-0645 Company Name: FOSTER FARMS (PORTERVILLE, CA) Contact: Address: Phone Number:	Component ID: SB-4 Secondary ID: Component Type: AMMONIA SCREW COMPRESSOR Manufacturer: FES Model: Information Requested Application: PLANT/INDUSTRIAL Sump Capacity:	Tracking Number: 18178Y06677 Lab Number: I-115134 Lab Location: Indianapolis Data Analyst: JAS Sampled: 02-Oct-2018 Received: 09-Oct-2018 Completed: 10-Oct-2018
Filter Information	Miscellaneous Information	Product Information
Filter Type: Information Requested Micron Rating: 0	Miscellaneous: NONE	Product Manufacturer: Information Requested Product Name: Information Requested Viscosity Grade: Information Requested

Comments Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Tin is at a MINOR LEVEL.

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)				Additive Metals (ppm)						
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	1	1

Sample #	Sample Information							Contaminants				Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100°C	Acid Number	Base No. D-4739	Oxidation	Nitration	
1	02-Oct-2018	09-Oct-2018	0	11151	No	0	No	% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm	
										0 - mo. 6304C	64.9		0.01				

Sample #	ISO Code Based On 4/6/14	Particle Count (particles/mL)								Test Method
		> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	
1	//									

Comments are advisory only and are based on the assumption that the sample and data submitted are valid. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.

Historical Comments

ITM Task Description	Frequency		
Maintenance	Screw	Recip	Rotary Vane
q) Inspect vanes	NA	NA	5
r) Verify belt tension by measurement and its condition	NA	A	A
s) Verify pulley hub conditions	NA	A	A
t) Check electrical wiring and connections for hot spots	A	A	A
u) Calibrate motor current transducer/transformer	A	WA-A	NA
v) Calibrate capacity/volume (slide valve) controls	A	NA	NA

Frequencies: D - Daily, W - Weekly, M - Monthly, Q - Quarterly, S - Semiannual, A - Annual, B - Biennial, 3 - Three Years, 5 - Five Years, 10 - Ten Years, WA - Where Applicable, NA - Not Applicable, NR - Not Required, Others as noted.





PIPE CORROSION

ANSI/IIAR 6-2019
TABLE
A.11.1.1.3.1



**Table A.11.1.1.3.1
Piping Sizes, Schedules, and Thicknesses (Carbon Steel Only)**

Pipe Size (in.) (OD)	Pipe Schedule	Nominal Thickness (in.)	*Mill Tolerance Thickness (in.)	Alert Thickness (in.)	Remaining Percentage from Nominal	Replacement Thickness (in.)	Remaining Percentage from Nominal	**Pressure T _{max} (in.)
0.5 (0.840)	80	0.147	0.129	0.080	54%	0.044	30%	0.011
0.75 (1.050)	80	0.154	0.135	0.080	52%	0.046	30%	0.013
1 (1.315)	80	0.179	0.157	0.080	45%	0.054	30%	0.017
1.25 (1.660)	80	0.191	0.167	0.080	42%	0.057	30%	0.021
1.5 (1.900)	80	0.200	0.175	0.090	45%	0.060	30%	0.024
2 (2.375)	80	0.218	0.191	0.100	46%	0.065	30%	0.030
2 (2.375)	40	0.154	0.135	0.100	65%	0.046	30%	0.030
2.5 (2.875)	40	0.203	0.178	0.100	49%	0.061	30%	0.036
3 (3.500)	40	0.216	0.189	0.110	51%	0.065	30%	0.044
3.5 (4.000)	40	0.226	0.198	0.120	53%	0.068	30%	0.051
4 (4.500)	40	0.237	0.207	0.120	51%	0.071	30%	0.057
5 (5.563)	40	0.258	0.226	0.120	47%	0.081	31%	0.071
6 (6.625)	40	0.280	0.245	0.130	46%	0.094	34%	0.084
8 (8.625)	40	0.322	0.282	0.131	41%	0.119	37%	0.109
10 (10.750)	40	0.365	0.319	0.164	45%	0.146	40%	0.136
12 (12.750)	ST	0.375	0.328	0.194	52%	0.172	46%	0.162
14 (14.000)	ST	0.375	0.328	0.213	57%	0.188	50%	0.178
16 (16.000)	ST	0.375	0.328	0.244	65%	0.213	57%	0.203
18 (18.000)	ST	0.375	0.328	0.274	73%	0.238	64%	0.228
20 (20.000)	ST	0.375	0.328	0.305	81%	0.264	70%	0.254
24 (24.000)	ST	0.375	0.328	0.326	87%	0.315	84%	0.305

Adapted from *Principles and Practices of Mechanical Integrity Guidebook for Industrial Refrigeration Systems*.
 *Mill Tolerance Thickness is 12.5% less than Nominal Thickness in accordance with ASME B31.5 and ASTM specifications.
 **Pressure T_{max} is in accordance with ASME B31.5 (300 psi, A53 Gr A ERW, temperatures at or above -20 °F).





Trademark

DUPLICATE TAG
American Bridge
Division of
United States Steel Corporation



MAX. ALLOW. WORKING PRESS.

250

650

SERIAL NO. 134158 BUILT 1979

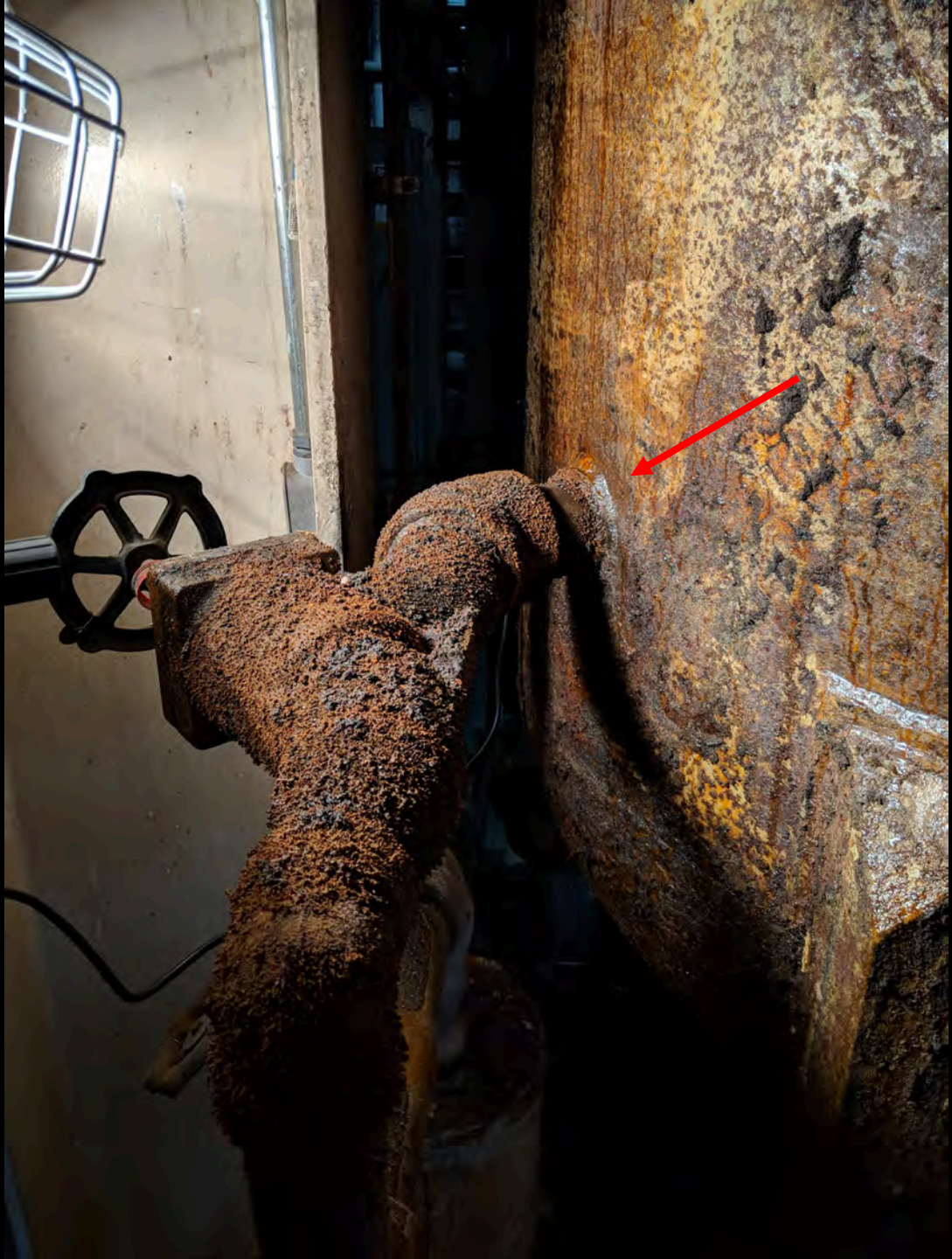
SHELL THICKNESS 1/2"

HEAD THICKNESS .547" MIN.

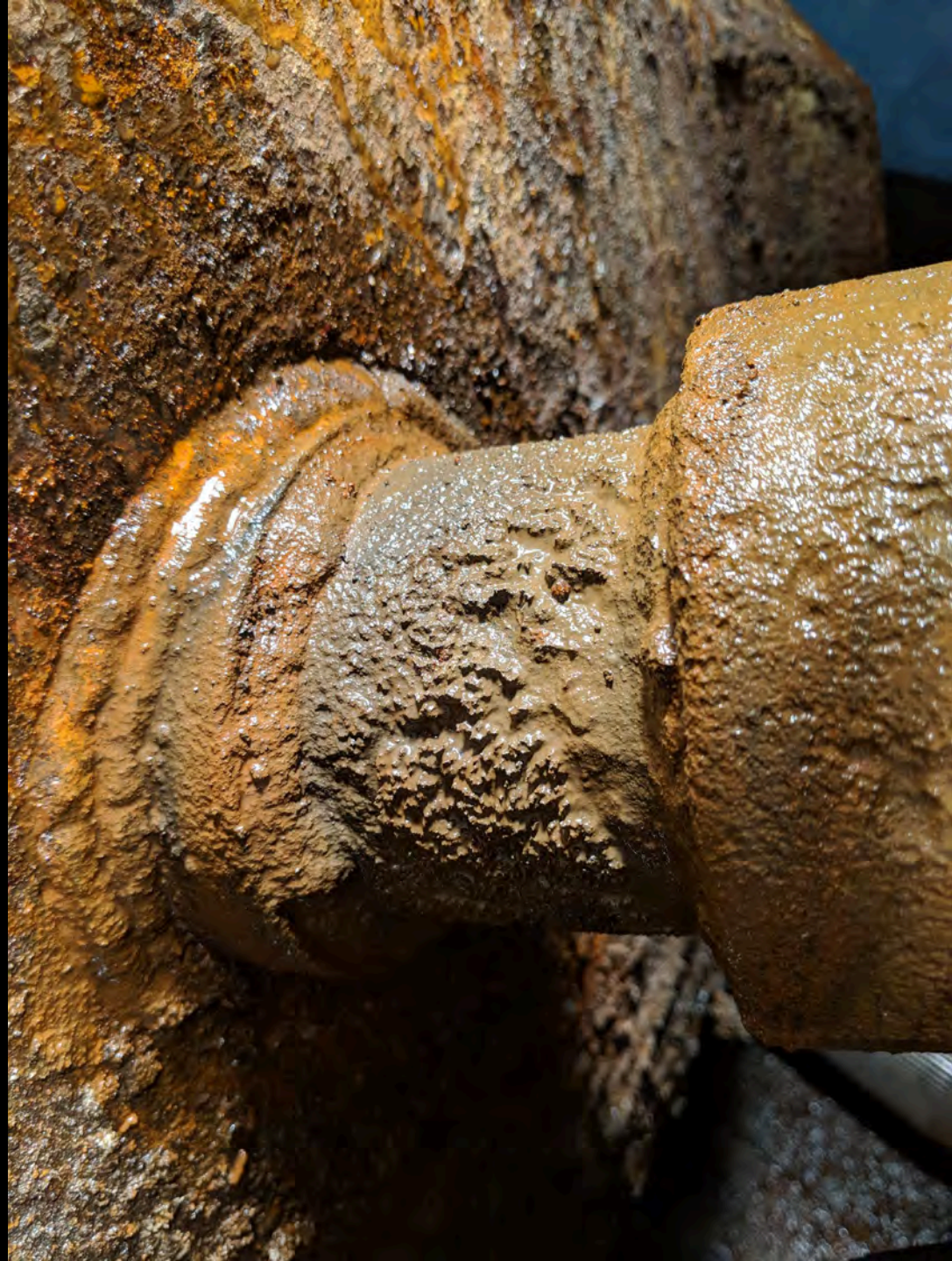
SURFACE AREA 237 S.T. WEIGHT 1961

SERVICE: DUPLICATE TAG NEVINS CO.
P.O. 7611


















0.120"

Nominal
Thickness of a
3" Sch 80 Pipe
is 0.300

60% Material
Loss

**Table A.11.1.1.3.1
Piping Sizes, Schedules, and Thicknesses (Carbon Steel Only)**

Pipe Size (in.) (OD)	Pipe Schedule	Nominal Thickness (in.)	*Mill Tolerance Thickness (in.)	Alert Thickness (in.)	Remaining Percentage from Nominal	Replacement Thickness (in.)	Remaining Percentage from Nominal	**Pressure T _{min} (in.)
0.5 (0.840)	80	0.147	0.129	0.080	54%	0.044	30%	0.011
0.75 (1.050)	80	0.154	0.135	0.080	52%	0.046	30%	0.013
1 (1.315)	80	0.179	0.157	0.080	45%	0.054	30%	0.017
1.25 (1.660)	80	0.191	0.167	0.080	42%	0.057	30%	0.021
1.5 (1.900)	80	0.200	0.175	0.090	45%	0.060	30%	0.024
2 (2.375)	80	0.218	0.191	0.100	46%	0.065	30%	0.030
2 (2.375)	40	0.154	0.135	0.100	65%	0.046	30%	0.030
2.5 (2.875)	40	0.203	0.178	0.100	49%	0.061	30%	0.036
3 (3.500)	40	0.216	0.189	0.110	51%	0.065	30%	0.044
3.5 (4.000)	40	0.226	0.198	0.120	53%	0.068	30%	0.051
4 (4.500)	40	0.237	0.207	0.120	51%	0.071	30%	0.057
5 (5.563)	40	0.258	0.226	0.120	47%	0.081	31%	0.071
6 (6.625)	40	0.280	0.245	0.130	46%	0.094	34%	0.084
8 (8.625)	40	0.322	0.282	0.131	41%	0.119	37%	0.109
10 (10.750)	40	0.365	0.319	0.164	45%	0.146	40%	0.136
12 (12.750)	ST	0.375	0.328	0.194	52%	0.172	46%	0.162
14 (14.000)	ST	0.375	0.328	0.213	57%	0.188	50%	0.178
16 (16.000)	ST	0.375	0.328	0.244	65%	0.213	57%	0.203
18 (18.000)	ST	0.375	0.328	0.274	73%	0.238	64%	0.228
20 (20.000)	ST	0.375	0.328	0.305	81%	0.264	70%	0.254
24 (24.000)	ST	0.375	0.328	0.326	87%	0.315	84%	0.305

Adapted from *Principles and Practices of Mechanical Integrity Guidebook for Industrial Refrigeration Systems*.

*Mill Tolerance Thickness is 12.5% less than Nominal Thickness in accordance with ASME B31.5 and ASTM specifications.

**Pressure T_{min} is in accordance with ASME B31.5 (300 psi, A53 Gr A ERW, temperatures at or above -20 °F).



























CONDENSERS











PIPE SUPPORTS



Relief Valves

QV 9

CYRUS SHANK
COMPANY

INSTALLATION DATE

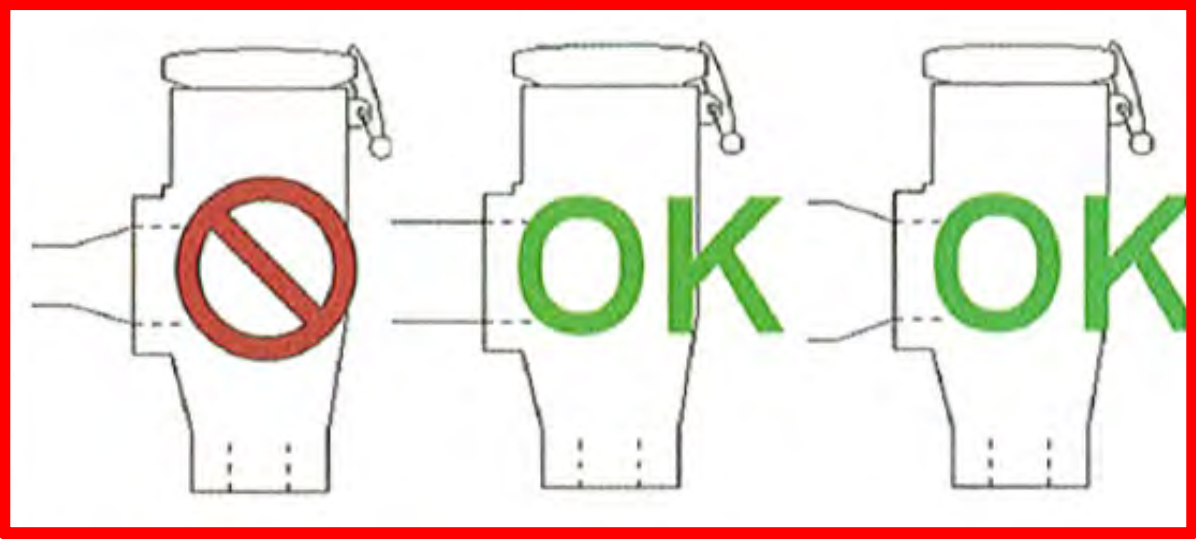
10	JAN	JUL
●	FEB	AUG
11	MAR	SEP
12	●	OCT
13	NOV	NOV
14	NOV	NOV
15	NOV	NOV

QV 8

CYRUS SHANK
COMPANY

REPLACE BY

10	JAN	JUL
11	FEB	AUG
12	MAR	SEP
13	●	OCT
14	NOV	NOV
15	NOV	NOV







VENTILATION















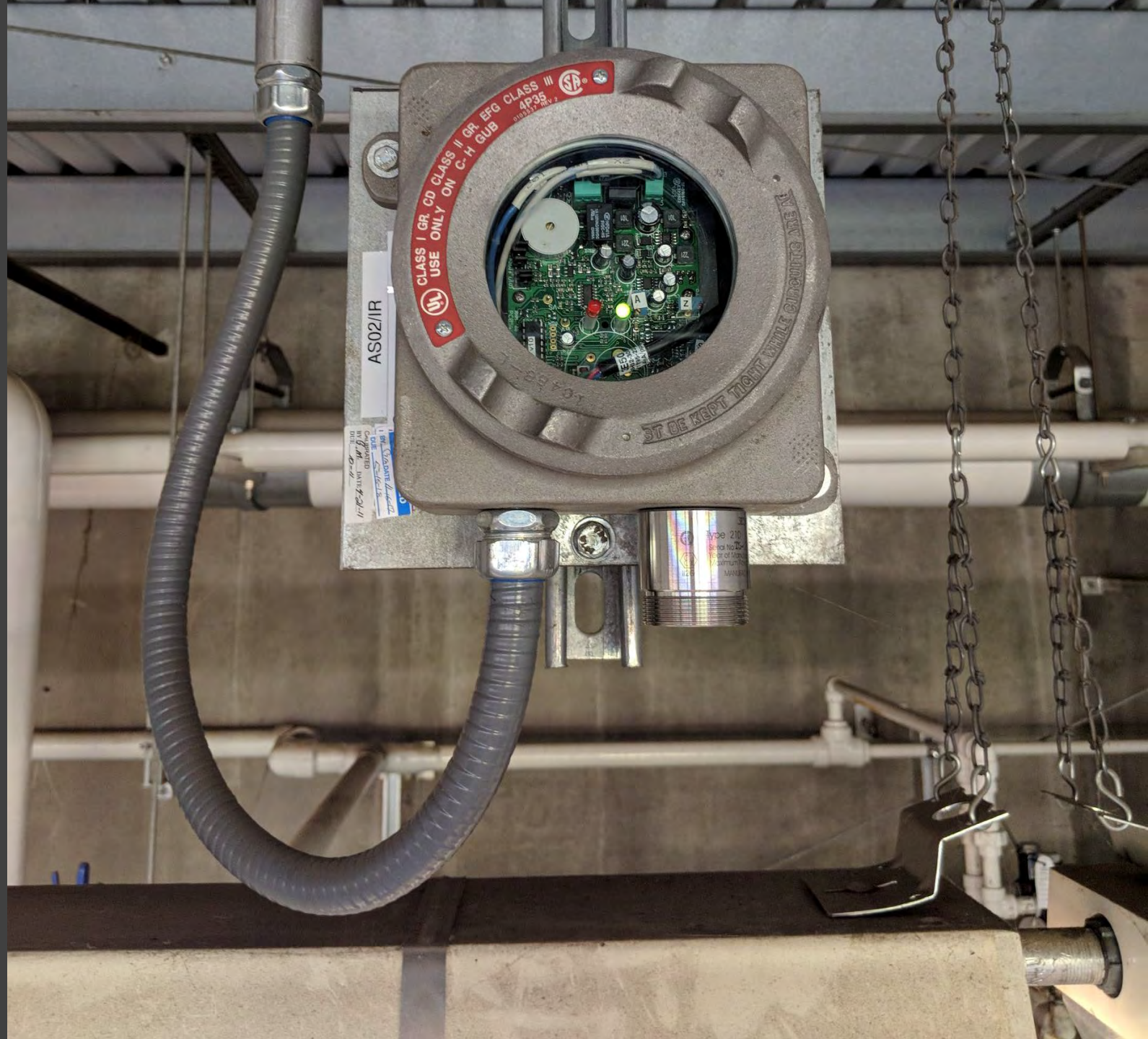


RIGHT TO KNOW
COMPLIANCE
CENTER
BRADY
SAFETY DATA
SHEETS
GHS

ANSI Z39.5-1986
SAFETY DATA SHEETS
5 1 2 3 4



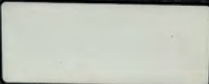
DETECTION





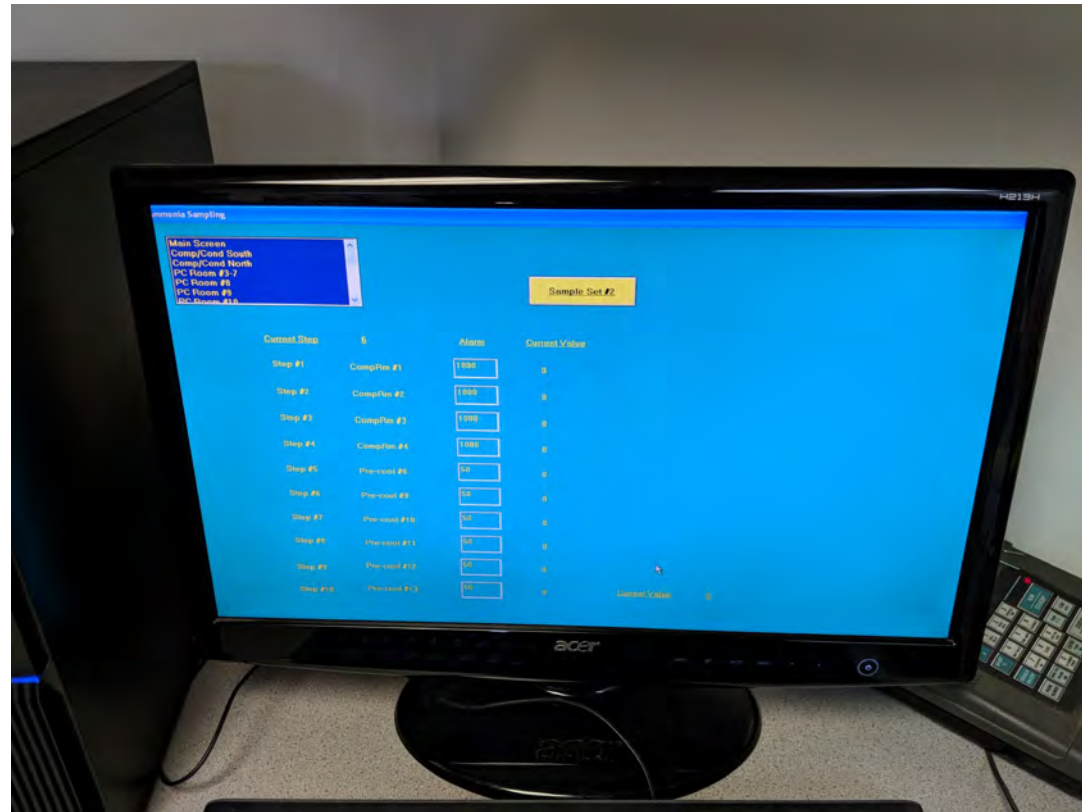
GASGUARD VL2-NH₃

AMMONIA SENSOR



CALIBRATION
TECHNOLOGIES
INC. 866-394-5861
Factory Cal May, 2017
Due November, 2017

CALIBRATION
TECHNOLOGIES
INC.



<u>Current Step</u>	<u>6</u>	<u>Alarm</u>	<u>C</u>
Step #1	CompRm #1	1000	
Step #2	CompRm #2	1000	
Step #3	CompRm #3	1000	
Step #4	CompRm #4	1000	
Step #5	Pre-cool #8	50	
Step #6	Pre-cool #9	50	



Resource Compliance

126 W. Ventura Ct.,
Kingsburg, CA 93631

resourcecompliance.com

(559) 591-8898