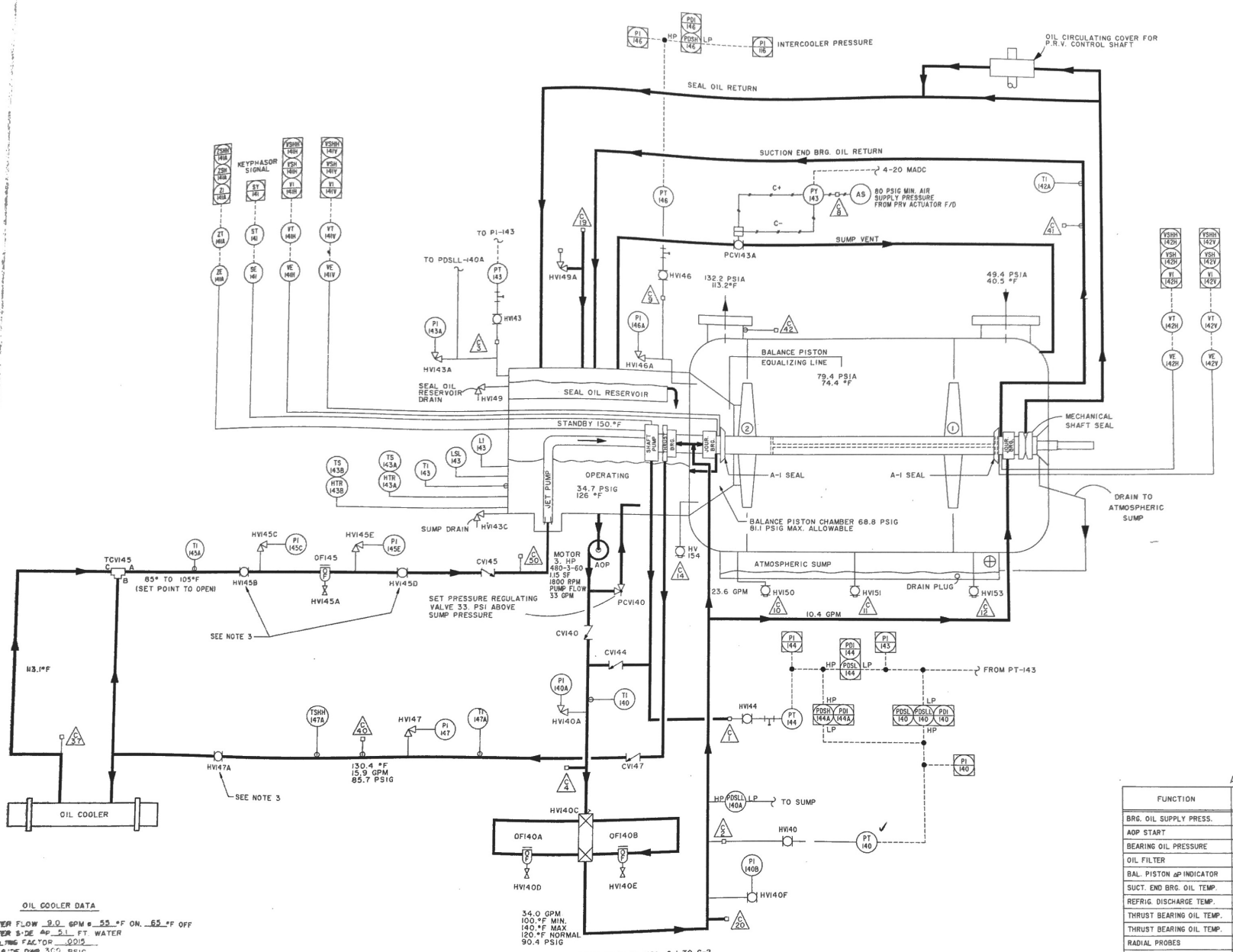
PROJECT NAME: O'HARE INTERNATIONAL AIRPORT, CHICAGO, IL
ENGINEER: BURNS & MCDONNELL, DOWNERS GROVE, IL 60515
CUSTOMER: HILL MECHANICAL, 11045 GAGE AVE., FRANKLIN PARK, IL
CUSTOMER PO: 67175002 & 67175003
MANUFACTURER: JOHNSON CONTROLS INC.(JCI)-YORK, 631 S. RICHLAND AVENUE, YORK, PA
JCI-YORK ORDER NO.: 5N0I0436-02, 5N0I0437-02, 5N0I0438-02
EQUIPMENT: TITAN COMPRESSORS FOR TITAN OM 4500 R-134A VFD DRIVE CHILLERS



NOTES:

1. FOR FLOW DIAGRAM LEGEND SEE YORK DWG. 076-78525E.
2. PRESSURES AND TEMPERATURES ON THE DIAGRAM ARE APPLICABLE TO THE FULL LOAD RUNNING CONDITION AT DESIGN SPEED 3406 RPM.
3. THREE BALL VALVES MUST BE LOCKED OPEN IN OPERATION. FAILURE TO DO SO VOIDS THE WARRANTY. LOCKS TO BE SUPPLIED BY CUSTOMER

COMPR. PRESSURE CONNECTIONS

C-1 - SHAFT PUMP OIL PRESSURE TO PT-144
C-2 - SUPPLY OIL PRESSURE TO PT-140
C-3 - SUMP PRESSURE TO PT-143
C-4 - BEFORE OIL FILTER PRESSURE
C-8 - AIR SIGNAL TO SUMP VENT VALVE
C-9 - BALANCE PISTON PRESSURE TO PT-146
C-14 - BAL. PISTON DRAIN
C-19 - OIL SEPARATOR RETURN CONNECTION
C-20 - BRG. SUPPLY OIL PRESSURE (SECONDARY)
C-37 - OIL COOLER OUTLET SERVICE CONNECTION
C-50 - INLET OF JET PUMP

COMPR. TEMP. CONNECTIONS

C-40 - THRUST BEARING DISCHARGE TEMP
C-41 - SUCTION BEARING RETURN TEMP.
C-42 - COMPRESSOR DISCHARGE TEMP.

RTD'S

TT-113 - COMPR. DISCH. GAS TEMP.
TT-142 - SUCT. END BRG. RTN. TEMP.
TT-140 - COMPR. BEARING SUPPLY OIL TEMP
TT-147 - THRUST DISCHARGE OIL TEMP.

SWITCHES

PDSLL-140A - COMPR. OIL PRESS. SHUTDOWN
LSL-143 - LOW SUMP OIL LEVEL
PDSL-144 - COMPR. AUX. OIL PUMP CONTROL
TSHH-147A - COMPR. HIGH THRUST OIL TEMP. SHUTDOWN

THERMOMETERS

TI-140 - COMPR. BEARING SUPPLY OIL TEMP.
TI-142A - COMPR. SUCT. BEARING RETURN OIL TEMP.
TI-143 - COMPR. SUMP OIL TEMP.
TI-145A - COMPR. OIL COOLER OUTLET OIL TEMP.
TI-147A - COMPR. THRUST OIL TEMP.

GAUGES

PI-140A - COMPR. BEFORE FILTER OIL PRESS.
PI-140B - COMPR. BEARING SUPPLY OIL PRESS.
PI-143A - COMPR. SUMP OIL PRESS
PI-145C - OIL COOLER OUTLET PRESS
PI-145E - START-UP FILTER OUTLET PRESS
PI-146A - COMPR. BALANCE PISTON PRESS.
PI-147 - COMPR. THRUST OIL PRESS.

OIL COOLER DATA

WATER FLOW 9.0 GPM @ 55 °F ON, 65 °F OFF
WATER SIDE ΔP 5.1 FT. WATER
FOULING FACTOR .0015
OIL SIDE DWP 30.0 PSIG
WATER SIDE DWP 15.0 PSIG

ALL OPERATING POINTS

FUNCTION	SYMBOL	SAFETY CONTROL OPERATING POINTS	
		ALARM	SHUTDOWN
BRG. OIL SUPPLY PRESS.	PDSLL-140A	----------	20.0 PSI
AOP START	PDSL-144	30.0 PSI	----------
BEARING OIL PRESSURE	PDSL/PDSLL-140	23.0 PSI	20.0 PSI
OIL FILTER	PDSH-144A	17.0 PSI *	----
BAL. PISTON ΔP INDICATOR	PDSH-146	10.6 PSI	----
SUCT. END BRG. OIL TEMP.	TSH/TSHH-142	175.0°F	185.0°F
REFRIG. DISCHARGE TEMP.	TSH/TSHH-113	210.0°F	226.0°F
THRUST BEARING OIL TEMP.	TSH/TSHH-147	175.0°F	185.0°F
THRUST BEARING OIL TEMP.	TSHH-147A	-----	185.0°F
RADIAL PROBES	VSH/VSHH-141/142	2.0 MIL	2.4 MIL
AXIAL PROBE	ZSH/ZSHH-141A	SEE SECTIONAL DRAWING SHEET 2	

* = THIS VALUE MAY BE FIELD ADJUSTED.

5N0I0436-02
5N0I0437-02
5N0I0438-02

REVISION RECORD	CHG. NO.	DR	CK	REV. LEV.	DATE	REVISION RECORD	CHG. NO.	DR.	CK.	REV. LEV.	DATE	REVISION RECORD	CHG. NO.	DR.	CK.

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YORK INTERNATIONAL CORPORATION
YORK, PA. 17405

DIMENSIONS ARE IN INCHES DO NOT SCALE
TOLERANCES PER ENG. STD. M-282
WELDING PER ENG. STD. M-30
REF DWG.

DIAG., OIL FLOW M255ATA4 MULTI-STAGE TURBO COMPR

MATERIAL
TYPE ____ ENG STD. ____
PART NO. ____
CUT SIZE ____

NAME	DATE
DR E.M.MOHAR	09-28-15
APPR. K.HEIMBERGER	XX-XX-15
SCALE: N.T.S.	

SIZE: E | CAGE NO: 66935 | DRAWING NUMBER: 081-20828-000

WT = LBS. | ORIG. NO. 081-19493 | SHEET

CE 2015 5N0I0436 FLOW 081-20828