

APPENDICES

APPENDIX I
SYSTEM LADDER DIAGRAM

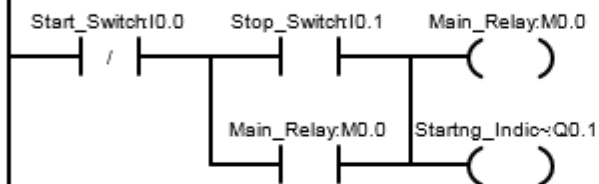
Block: Program_Block
 Author:
 Created: 04/06/2017 03:24:00 pm
 Last Modified: 05/13/2017 05:45:23 pm

Symbol	Var Type	Data Type	Comment
	TEMP		
	TEMP		
	TEMP		
	TEMP		

PLC BSSED FIRE FIGHTING PUMPS CONTROL

Network 1 Network Title

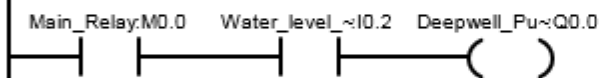
START & STOP



Symbol	Address	Comment
Main_Relay	M0.0	System Startup
Start_Switch	I0.0	System startup
Startng_Indicator	Q0.1	System start indication
Stop_Switch	I0.1	System stop

Network 2

DEEPWELL PUMP



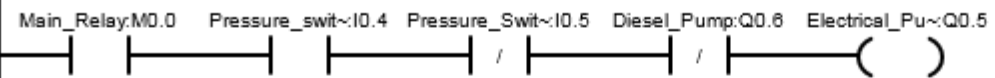
Symbol	Address	Comment
Deepwell_Pump	Q0.0	Water pool filling
Main_Relay	M0.0	System Startup
Water_level_max	I0.2	Water level max check

Network 3

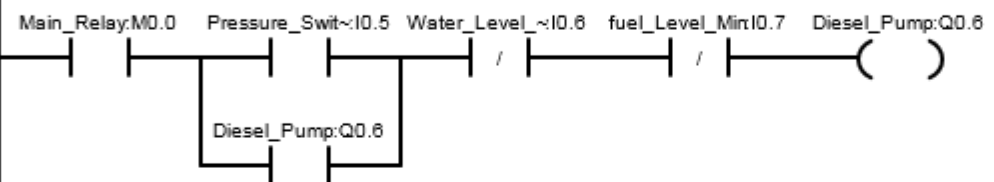
JOCKY PUMPP START & STOP



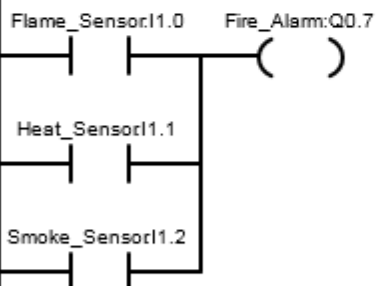
Symbol	Address	Comment
Diesel_Pump	Q0.6	Diesel Pump
Jocky_Pump	Q0.4	Jcky pump
Main_Relay	M0.0	System Startup
Pressure_switch1	I0.3	8 bar
Pressure_switch2	I0.4	8 bar

Network 4**ELECTRICAL PUMP START & STOP**

Symbol	Address	Comment
Diesel_Pump	Q0.6	Diesel Pump
Electrical_Pump	Q0.5	Electrical pump
Main_Relay	M0.0	System Startup
Pressure_switch2	I0.4	8 bar
Pressure_Switch3	I0.5	4 bar

Network 5**DESIL PUMP START & STOP**

Symbol	Address	Comment
Diesel_Pump	Q0.6	Diesel Pump
fuel_Level_Min	I0.7	Fuel level min indication
Main_Relay	M0.0	System Startup
Pressure_Switch3	I0.5	4 bar
Water_Level_Min	I0.6	Water level min indicatin

Network 6**FLAME, HEAT, AND SMOKE SENSORS**

Symbol	Address	Comment
Fire_Alarm	Q0.7	Fire alarm relay
Flame_Sensor	I1.0	Flame detection
Heat_Sensor	I1.1	Heat detection
Smoke_Sensor	I1.2	Smoke detection

International Certificates

International Certificates

	NATIONAL PRODUCT CERTIFICATIONS / STANDARDS						
	Germany	France	England	Hungary	Czech Rep.	Poland	USA
	VdS	APSAD/CNPP	LPC	BMOKF	ZUS/Pavus	CNBOP	FM
							
Etanorm- MX	•			•	•	•	
Etanorm- MXN		•		•	•		
Etanorm- RX	•			•	•	•	
Etanorm- RXN		•		•	•		
CPK-SX	•			•	•	•	
Multitec-SX	•			•			
Omega/RDL				•			•
ES							•
Movitec	•			•	•		
UPA	•			•	•	•	
HSC							•

NFPA 20

Centrifugal Pump Capacities

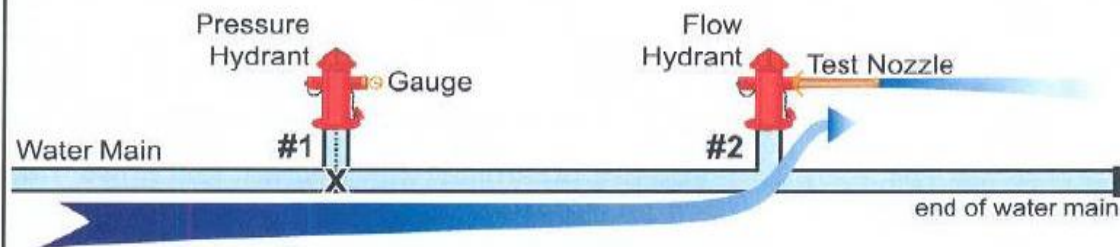
gpm	L/min	gpm	L/min
25	95	1,000	3,785
50	189	1,250	4,731
100	379	1,500	5,677
150	568	2,000	7,570
200	757	2,500	9,462
250	946	3,000	11,355
300	1,136	3,500	13,247
400	1,514	4,000	15,140
450	1,703	4,500	17,032
500	1,892	5,000	18,925
750	2,839		

Diagram of a Hydrant Test Flow

Recommended Method:

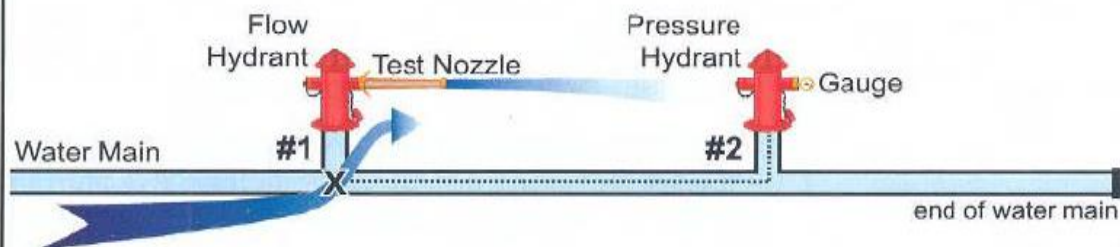
"Always flow water past the point where pressure readings are being taken"

RECOMMENDED:



The pressure readings will be for point **X** at Hydrant #1.
Clear passage has also been verified to Hydrant #2.

NOT RECOMMENDED:



The pressure readings are still for point **X** at Hydrant #1.
However the passage between #1 and #2 may not be clear.

NOTE: In this method, any elevation change between #1 and #2 must be accounted for.

Courtesy of Proctor & Gamble, Cincinnati, OH



HYDRAULIC PERFORMANCE WARRANTY
GUARANTEED AT DESIGNED POINT ONLY AND IS
CONTINGENT ON:
1. PROPER NPSH OR SUBMERGENCE AVAILABLE.
2. PROPER AND ADEQUATE FLOW TO PUMP SUCTION.
3. FLUID FREE OF GAS, AIR, AND ABRASIVE MATTER.
4. IMPELLER WITH PROPER LATERAL ADJUSTMENT.

PEERLESS PUMP COMPANY

CUSTOMER INFORMATION:

RADCO FIRE PROTECTION, INC.

BY: DAO

DATE: 7/20/2006

PUMP: 6AEF16G

STAGES: 1

IMP. NO. 1: 2692933

IMP. NO. 2:

IMP. DIA1: 16.05

IMP. DIA2:

CURVE NO.: C217084

TEST NO.: 217084

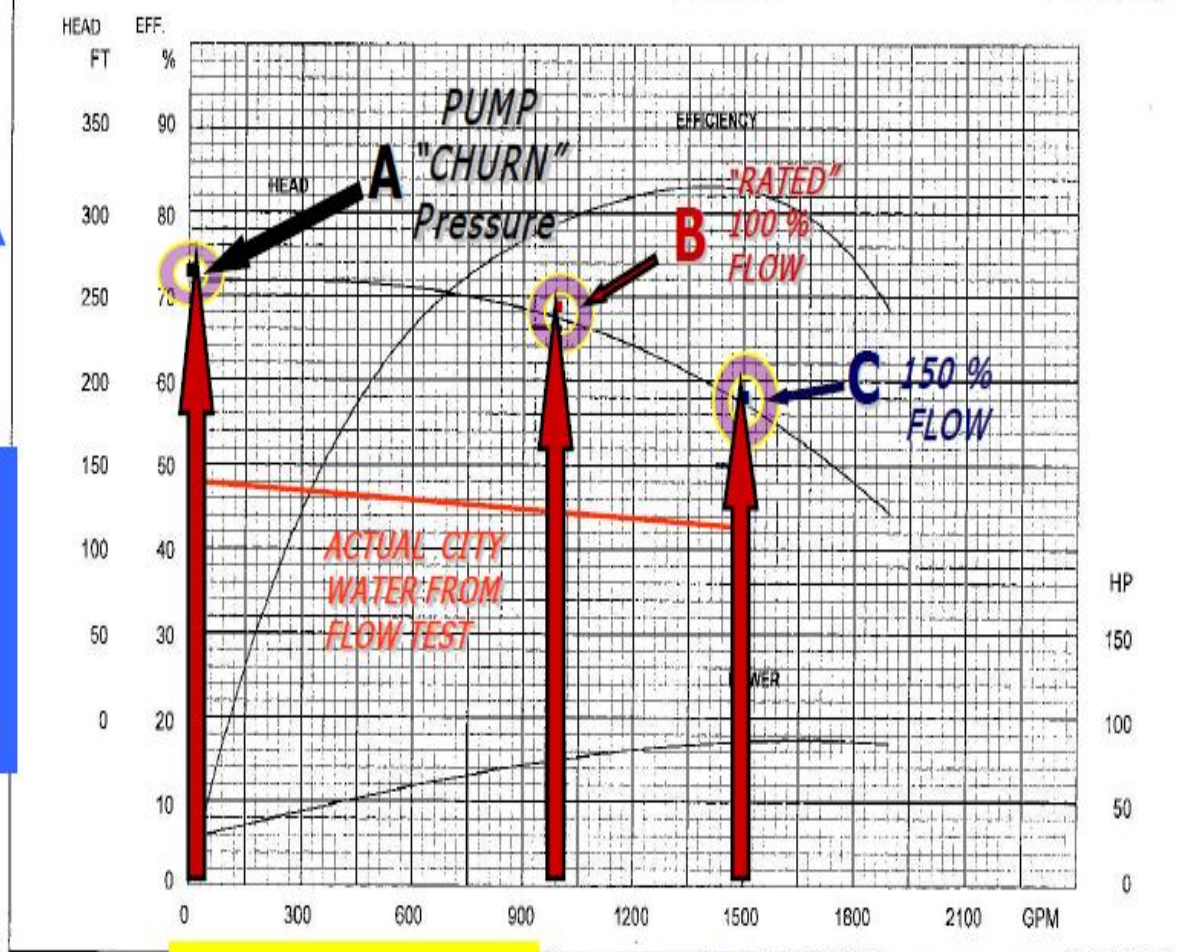
SHOP ORDER: 692282 HMF

Rated Flow: 1000.00 GPM

Rated Head: 231.14 FT

Rated Speed: 1760 RPM

Spec. Gravity: 1.000



FLOW IN GPM

TEST CURVES

Serial No. 692282

<FM> Short Play Pipe



Underwriters Play Pipe