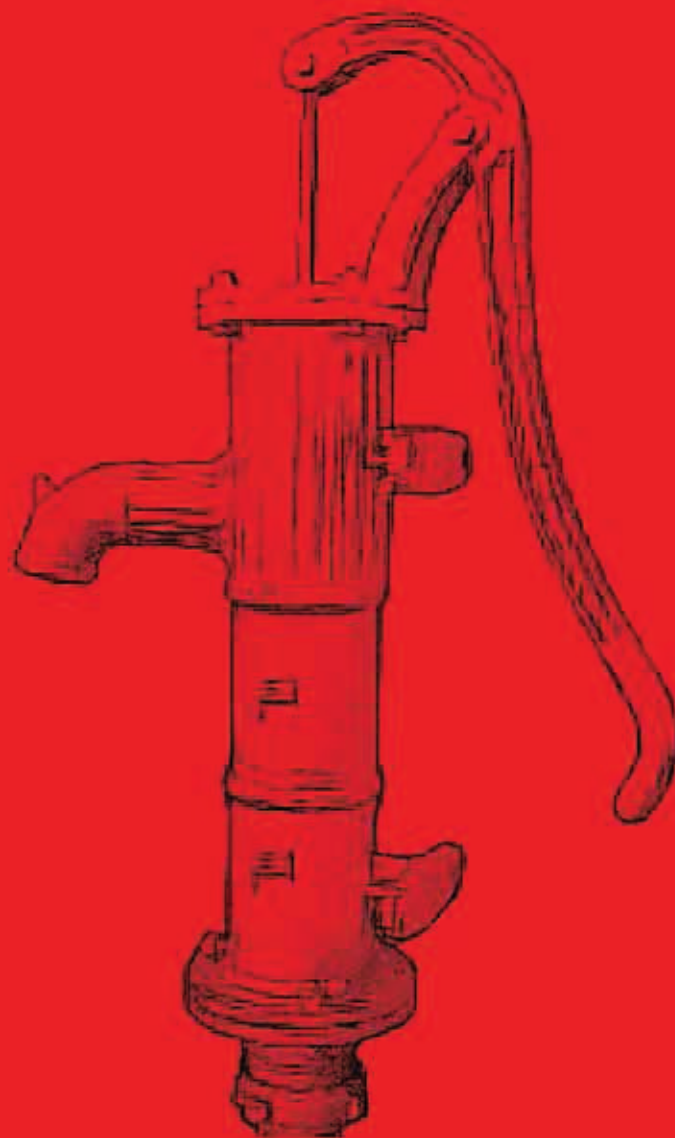


BRISTOL

FIRE FIGHTING SOLUTIONS PROVIDER



FIRE PUMPS

END SUCTION PUMPS

Bristol End Suction Pumps is designed according to NFPA 20 for fire fighting applications. This pump is designed with latest technology and has premium components for fast maintenance and absolute efficiency.

PERFORMANCE RANGE

- **Capacity:**
From 50 GPM Up to 750 GPM
- **Head:**
From 40 MTR Up to 160 MTR

FEATURES

- Available in electric motor driven or engine driven configuration.
- Dynamic balanced impellers.
- Available in clock wise or counter-clock wise rotation to simplify pump room layout.
- UL CERT No: Ex16459

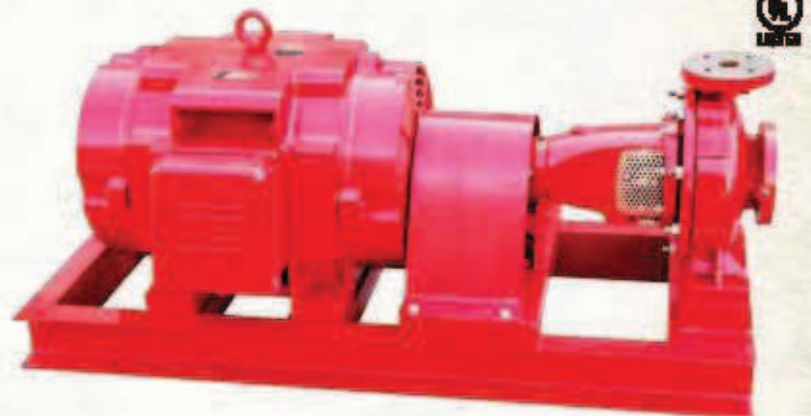
MATERIAL CONSTRUCTION

Shaft: Stainless Steel

Casing: Ductile Iron

Impeller: Bronze

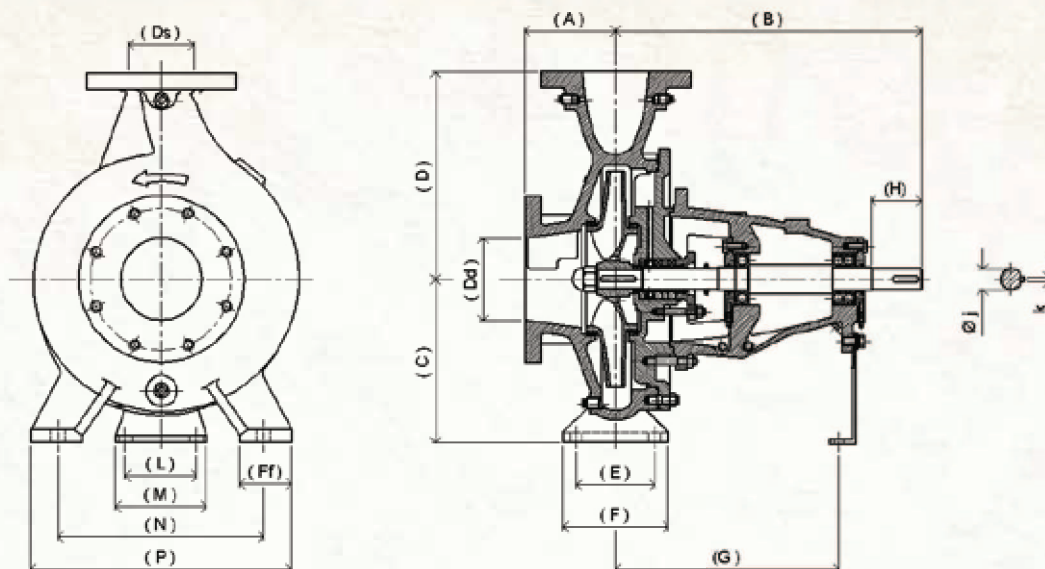
Packing Gland - Immersion Graphite Rope



GENERAL INFORMATION FOR CENTRIFUGAL FIRE PUMPS, END SUCTION

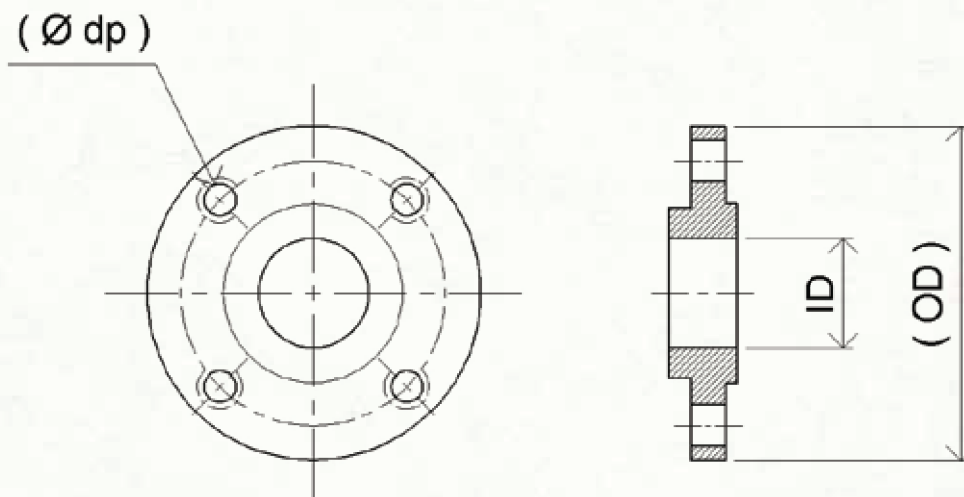
MODEL	RATED CAPACITY (GPM)	SIZE (In)	RATED NET PRESSURE RANGE (psi)	APPROX SPEED (RPM)
IS32 - 200	50	2 x 1 1/4	62-95	2950
IS32 - 200	50	2 x 1 1/4	55-85	2800
IS50 - 320H	50	2 1/4 x 2	103-167	2600
IS50 - 320H	50	2 1/4 x 2	88-142	2400
IS50 - 320H	100	2 1/4 x 2	178-298	3500
IS50 - 320H	100	2 1/4 x 2	132-210	2950
IS50 - 320H	100	2 1/4 x 2	119-189	2800
IS50 - 320H	100	2 1/4 x 2	102-166	2600
IS50 - 320H	100	2 1/4 x 2	87-141	2400
IS50 - 320H	150	2 1/4 x 2	177-296	3500
IS50 - 320H	150	2 1/4 x 2	132-209	2950
IS50 - 320H	150	2 1/4 x 2	118-188	2800
IS50 - 320H	150	2 1/4 x 2	99-165	2600
IS50 - 320H	150	2 1/4 x 2	84-140	2400
IS50 - 320H	200	2 1/4 x 2	173-296	3500
IS50 - 320H	200	2 1/4 x 2	127-209	2950
IS50 - 320H	200	2 1/4 x 2	113-188	2800
IS65 - 320H	200	3 x 2 1/4	159-290	3500
IS65 - 320H	200	3 x 2 1/4	108-201	2950
IS65 - 320H	200	3 x 2 1/4	97-181	2800
IS65 - 320H	200	3 x 2 1/4	104-158	2600
IS65 - 320H	200	3 x 2 1/4	88-133	2400
IS65 - 320H	250	3 x 2 1/4	157-290	3500
IS65 - 320H	250	3 x 2 1/4	107-201	2950
IS65 - 320H	250	3 x 2 1/4	97-181	2800
IS65 - 320H	250	3 x 2 1/4	102-155	2600
IS65 - 320H	250	3 x 2 1/4	85-131	2400
IS65 - 320H	300	3 x 2 1/4	155-289	3500

MODEL	RATED CAPACITY (GPM)	SIZE (In)	RATED NET PRESSURE RANGE (psi)	APPROX SPEED (RPM)
IS65 - 320H	300	3 x 2 1/4	107-201	2950
IS65 - 320H	300	3 x 2 1/4	97-181	2800
IS65 - 320H	300	3 x 2 1/4	98-152	2600
IS65 - 320H	300	3 x 2 1/4	82-128	2400
IS80 - 320H	300	4 x 3	159-203	2950
IS80 - 320H	300	4 x 3	143-183	2800
IS80 - 320H	400	4 x 3	158-203	2950
IS80 - 320H	400	4 x 3	142-183	2800
IS100 - 320H	400	5 x 4	123-158	2950
IS100 - 320H	400	5 x 4	110-142	2800
IS100 - 320H	400	5 x 4	98-172	2600
IS100 - 320H	400	5 x 4	83-147	2400
IS80 - 320H	450	4 x 3	157-203	2950
IS80 - 320H	450	4 x 3	140-182	2800
IS100 - 320H	450	5 x 4	122-158	2950
IS100 - 320H	450	5 x 4	110-142	2800
IS100 - 320H	450	5 x 4	98-172	2600
IS100 - 320H	450	5 x 4	83-147	2400
IS80 - 320H	500	4 x 3	155-202	2950
IS80 - 320H	500	4 x 3	136-182	2800
IS100 - 320H	500	5 x 4	122-158	2950
IS100 - 320H	500	5 x 4	110-142	2800
IS100 - 320H	500	5 x 4	97-172	2600
IS100 - 320H	500	5 x 4	82-147	2400
IS100 - 320H	750	5 x 4	119-147	2950
IS100 - 320H	750	5 x 4	104-131	2800
IS100 - 320H	750	5 x 4	89-166	2600



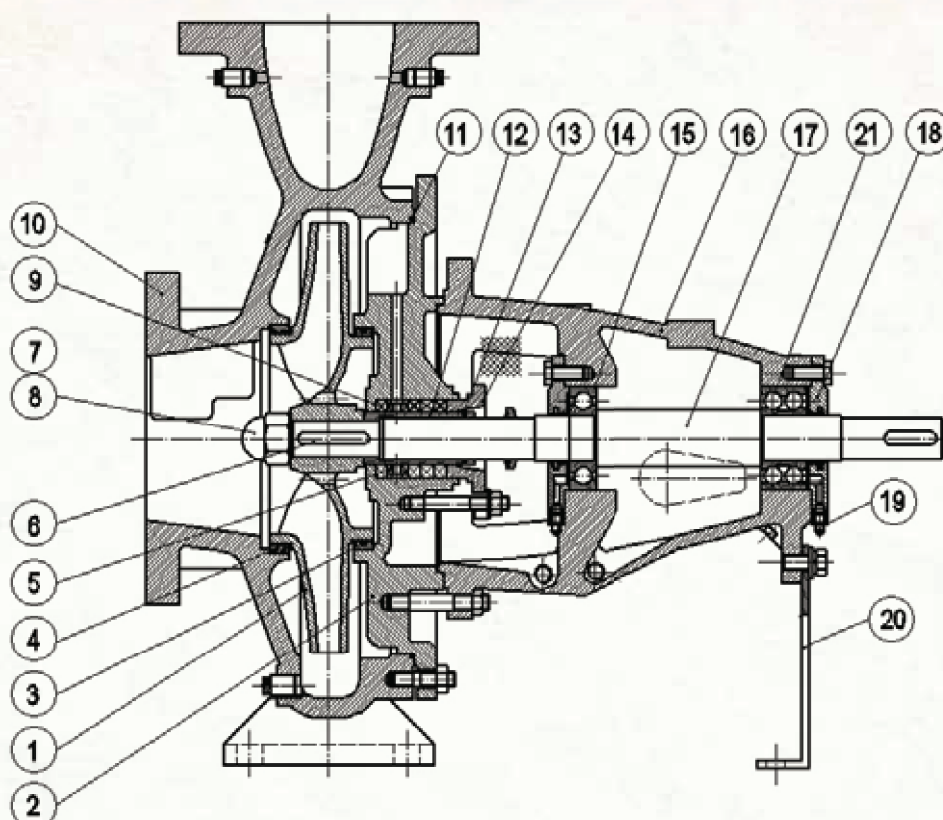
END SUCTION - TABLE OF DIMENSION IN (MM)

MODEL	A	B	C	D	E	F	Ff	G	H	L	M	N	P	Ø j	k
IS32 – 200	80	360	160	183.5	70	100	50	267	49	110	140	190	240	22.225	4.7x4.7x32
IS50 – 320H	125	470	225	285.6	95	125	65	342	79.4	110	140	280	345	28.575	6.35x6.35x44.5
IS65 – 320H	125	470	225	284	120	160	80	342	79.4	110	140	315	400	28.575	6.35x6.35x44.5
IS80 – 320H	125	470	250	317.4	120	160	80	342	79.4	110	140	315	400	28.575	6.35x6.35x44.5
IS100 – 320H	142	470	250	316	120	160	80	342	79.4	110	140	315	400	28.575	6.35x6.35x44.5



FLANGE - TABLE OF DIMENSION IN (MM)

MODEL	SUCTION			DISCHARGE		
	Ø ID	Ø OD	Ø dp	Ø ID	Ø OD	Ø dp
IS32 – 200	50.8	152	4 holes Ø19 On PCD 120	32	117	4 holes Ø16 On PCD 90
IS50 – 320H	63.5	178	4 holes Ø19 On PCD 133	50.8	152	4 holes Ø19 On PCD 120
IS65 – 320H	76	190	4 holes Ø19 On PCD 152	63.5	178	4 holes Ø19 On PCD 140
IS65 – 320H	101.6	228.6	8 holes Ø19 On PCD 190	76	190	4 holes Ø19 On PCD 152
IS100 – 320H	127	228.6	8 holes Ø19 On PCD 216	101.6	228.6	8 holes Ø19 On PCD 190



21	Outboard Bearing	Deep Grooved Ball Bearing	1
20	Support Foot	Q235	1
19	Grease Nipple	Stainless Steel	2
18	Bearing Cap	HT250	2
17	Shaft	Stainless Steel	1
16	Bearing Bracket	HT250	1
15	Inboard Bearing	Deep Grooved Ball Bearing	1
14	Gland Cover	Bronze	1
13	O-ring	N B R	1
12	Shaft Sleeve	Bronze	1
11	O-ring	N B R	1
10	Casing	Ductile Iron 65-45-12	1
9	Packing Gland	Immersion Graphite	4
8	Impeller Nut	Stainless Steel	1
7	Washer	Stainless Steel	1
6	Impeller key	Stainless Steel	1
5	Latern Ring	Bronze	1
4	Seal Ring -2	Bronze	1
3	Seal Ring -1	Bronze	1
2	Casing (Packing Gland)	Stainless Steel	1
1	Impeller	Bronze	1
ITEM	DESCRIPTION	MATERIAL	QUANTITY

BRISTOL

IS100-320H

2950 [rpm]

1 Stage

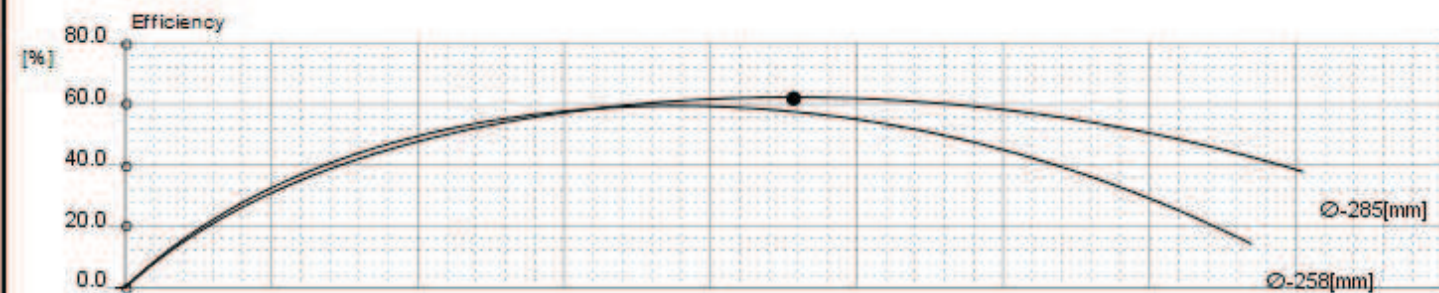
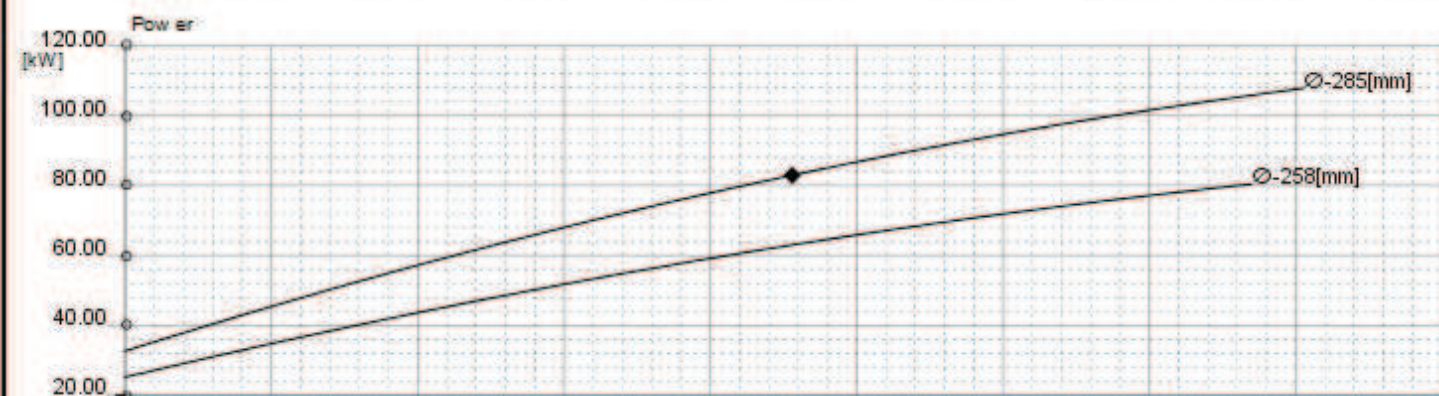
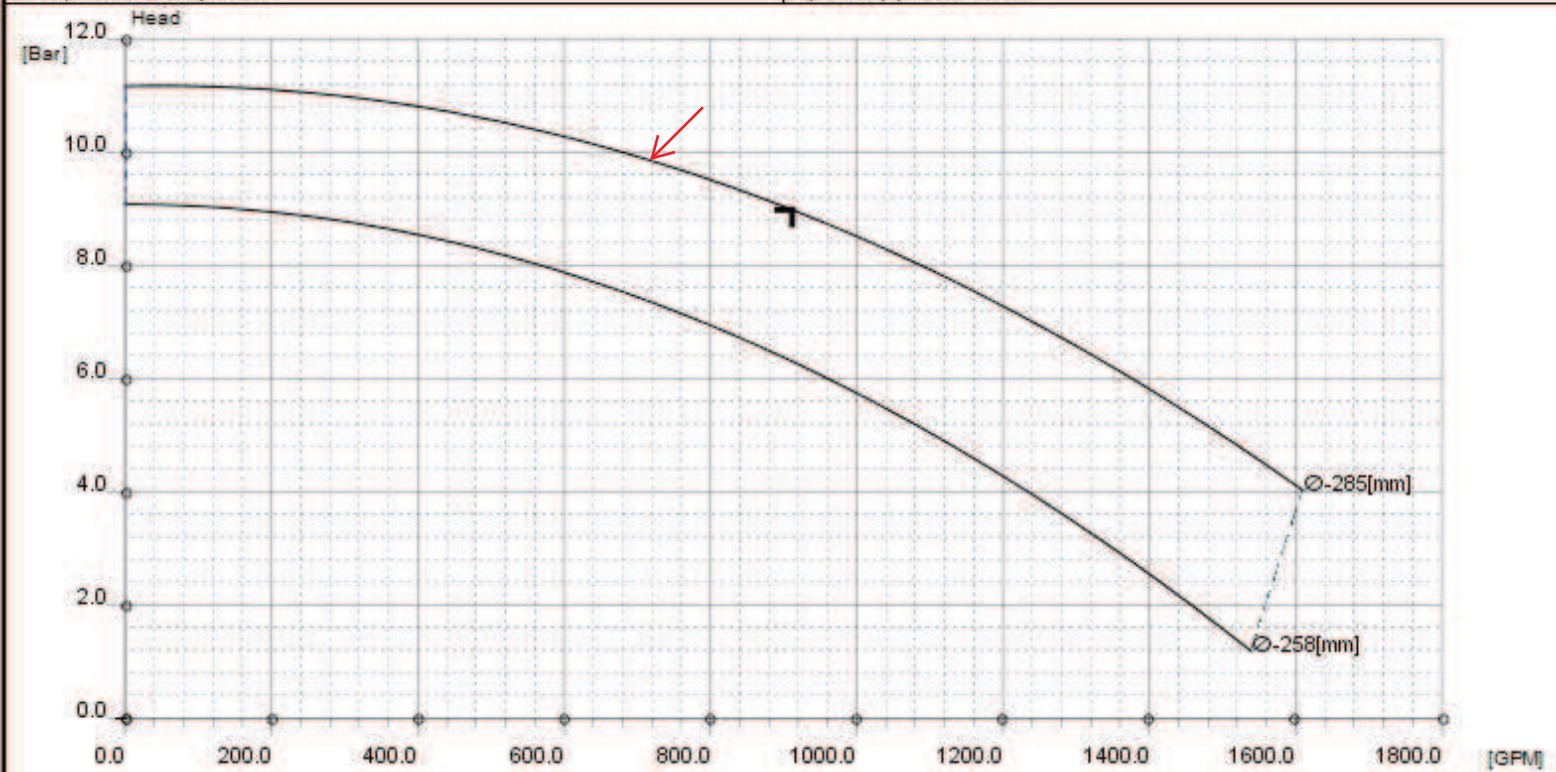
Curve N.

UL Pump Curve 009

Max. diameter 285 [mm]	Min. diameter 258 [mm]	Max speed 2950 [rpm]	Suction Ø 125 [mm]	Discharge Ø 100 [mm]
---------------------------	---------------------------	-------------------------	-----------------------	-------------------------

Density 1 and viscosity 1 cSt

Replace any previous edition



Comments

Diffuser	Impeller Closed Radial Impeller	NS 24	SSS 0	Author Adrian Roguel	Date Feb 25, 2014	Revision
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BRISTOL	Vendor Ref. No.	Doc. Seq. No. 01	Revision No. 00
	Vendor Doc. No.		
Contractor Name:			
Project Name:			

**DIESEL FIRE PUMP GENERAL ARRANGEMENT
DRAWING**

Fire Fighting Solutions Provider

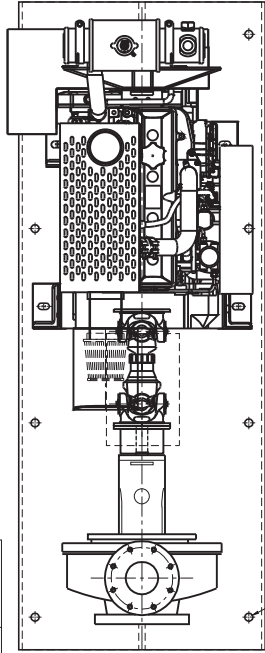
1 2 3 4 5 6 7 8

PUMP	B	R	I	S	T	O	L	P	U	M
4592/200	59	465	15.6	120.7	20	32	140	12.7	88.9	21.5
4569/320H	66	485	16.8	139.7	22	50	165	15.8	120.7	25.6
4565/320H	90	200	15.8	152.4	24	65	185	15.8	139.7	25.6
IS100/320H	125	254	19.0	215.9	28	100	228.6	15.8	190.5	25.6

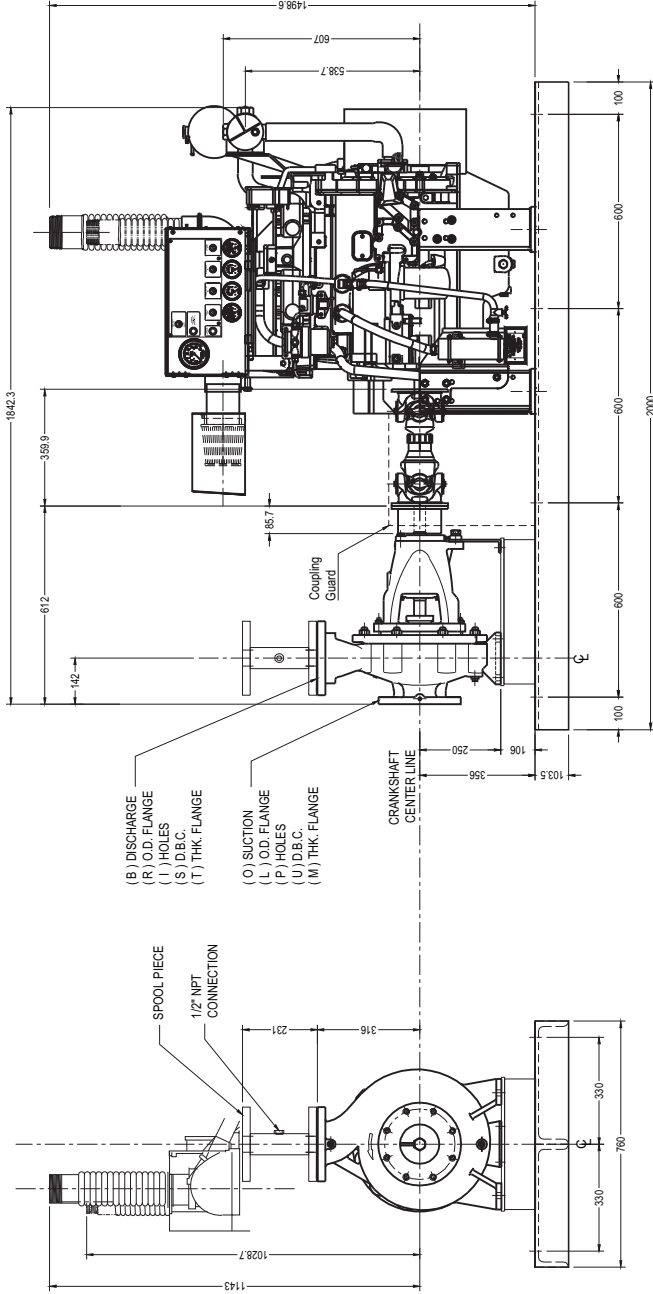
UNIT _____ OUR ORDER No. _____
JOB _____ CUSTOMER ORDER No. _____

PUMP _____ CAPACITY _____ G.P.M. _____ FT. HD. _____
ENGINE _____ R.P.M. _____ H.P. _____ VOLTS _____
CONTROLLER _____
CERTIFIED BY: _____ DATE _____

NOTE: 1) CLOCKWISE ROTATION SHOWN WHEN VIEWED FROM DRIVER END.
2) 5" GROUT HOLES ARE PROVIDED
IMPORTANT: BASES MUST BE GROUTED TO THEIR FULL DEPTH.
3) ALL DIMENSIONS UNLESS SPECIFIED OTHERWISE ARE MILLIMETERS.
4) ALL DIMENSIONS ARE $\pm 1/8"$ / 3.1mm (EXCEPT FOR FLANGE DRILLING).



TOP VIEW



BRISTOL

LINEAR DIM: 100 AND UNDER
LINEAR DIM: OVER 100 AND UNDER 1000
LINEAR DIM: OVER 1000
ANGULAR
HOLE POSITIONS
ALL DIMENSIONS ARE IN MM.
UNLESS OTHERWISE SPECIFIED

DRN: AM

CKD: MG

RVW: AR

APPD: MS

MATERIAL: .

NAME / TITLE:
**OUTLINE DIMENSIONS FOR
IS100/320H PUMP W/ CLARKE
JU4H-UF54 ENGINE**

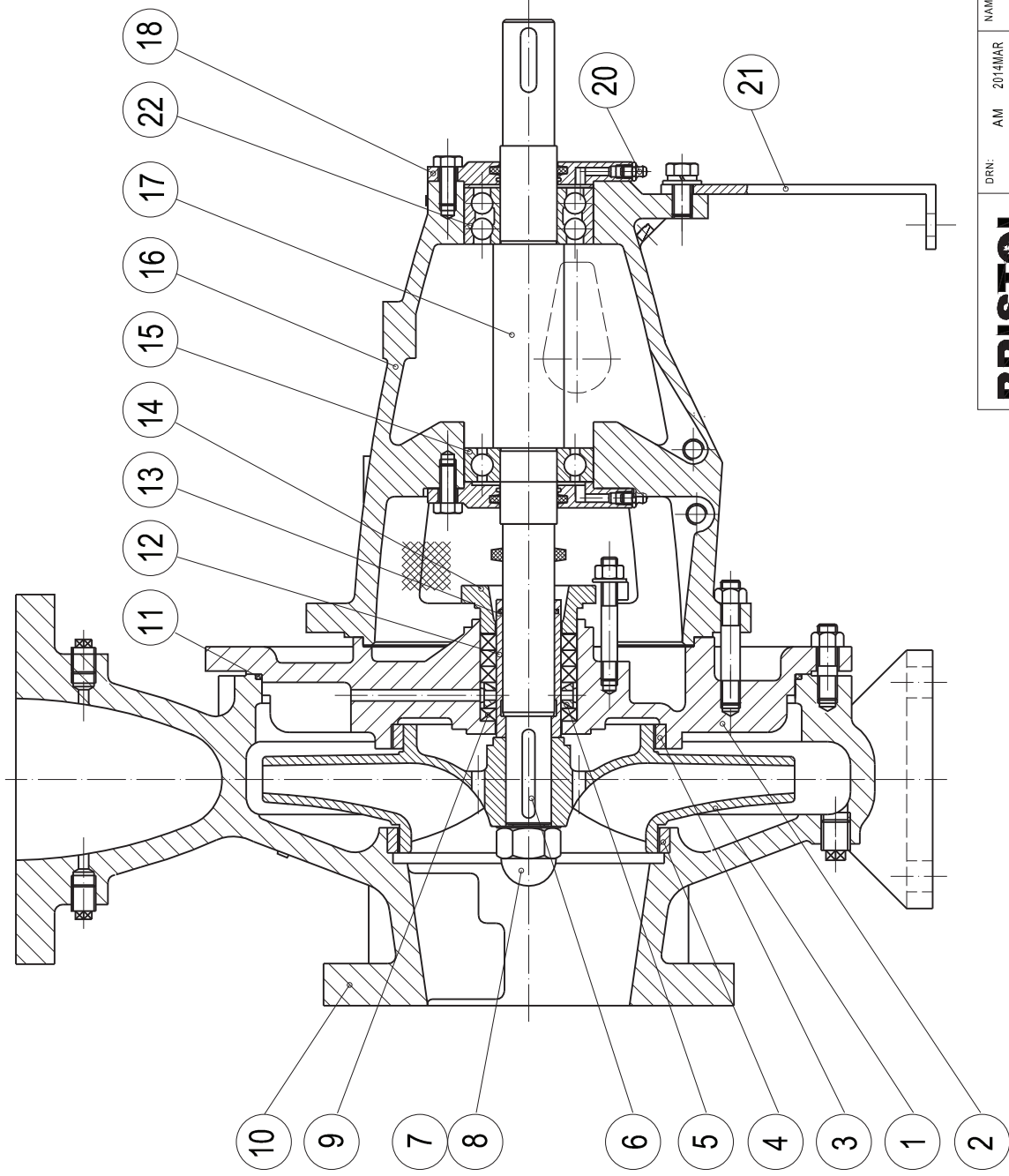
REV. 0 0102/14
WT: KG
PAGE 1 OF 1

SCALE: 1:1

BRISTOL	Vendor Ref. No.	Doc. Seq. No.	Revision No. 00
	Vendor Doc. No.		
Contractor Name:			
Project Name:			

**DIESEL FIRE PUMP CROSS-SECTIONAL
DRAWING**

Fire Fighting Solutions Provider



ITEM	DESCRIPTION
22	Outboard Bearing
21	Support Foot
20	Grease Nipple
19	Paper Washer
18	Bearing Cap
17	Shaft
16	Bearing Bracket
15	Inboard Bearing
14	Gland Cover
13	O-ring
12	Shaft Sleeve
11	O-ring
10	Casing
9	Packing Gland
8	Impeller Nut
7	Washer
6	Impeller key
5	Latern Ring
4	Seal Ring -2
3	Seal Ring -1
2	Casing (Packing Gland)
1	Impeller

BRISTOL		DRN: AM 2014MAR	NAME / TITLE:	
		CKD: MG 2014MAR	ASSEMBLY SECTION FOR IS100 / 320H	
LINEAR DIM: 100 AND UNDER LINEAR DIM: OVER 100 AND UNDER 1000 LINEAR DIM: OVER 1000 ANGULAR HOLE POSITIONS ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED		RVW: AR 2014MAR	DRG. NO.: IS100/320H-000B	REV. 0 01/MAR/14
		APPD: NM 2014MAR	FINISH: -	WT: KG
		MATERIAL: -	SCALE: 1:1	PAGE: 1 OF 1

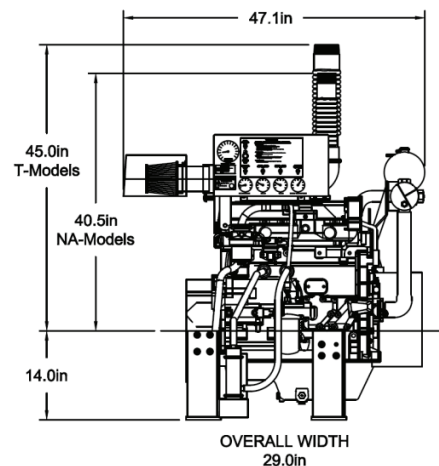
BRISTOL	Vendor Ref. No.	Doc. Seq. No. 01	Revision No. 00
	Vendor Doc. No.		
Contractor Name:			
Project Name:			

DIESEL FIRE PUMP ENGINE DATA

Fire Fighting Solutions Provider

FM-UL-cUL APPROVED RATINGS BHP/KW

JU4H MODEL ◆	RATED SPEED												US-EPA (NSPS) Available Until ●		
	1470		1760		2100		2350		2600		2800			3000	
UF10			41	31	51	38	55	41							12/31/10
UF12							55	41	59	44					12/31/10
UF14											70	52	71	53	12/31/13 +
UF20			60	45	67	50	72	54							12/31/10
UF22							72	54	75	56					12/31/10
UFAB26											80	60			12/31/13 +
UF24											80	60	83	62	12/31/13 +
UF30			64	48	79	59	85	63							12/31/10
UF32							85	63	85	63					12/31/10
UF34											104	78	115	86	12/31/12 +
UFH8	63	47	73	54											12/31/10
UFH0			73	54	88	66	98	73							12/31/10
UFH2							98	73	99	74					12/31/10
UF40			94	70	105	78	106	79							12/31/10 ▼ 12/31/09 ▲
UF42							106	79	106	79					12/31/09
UF58	79	59	110	82											12/31/09
UF50			110	82	130	97	127	95							12/31/09
UF52							127	95	127	95					12/31/09
UF54											145	108	145	108	12/31/12 +



● USA EPA (NSPS) Emissions Compliant. Applies to John Deere model year per Table 4 of 40 CFR Part 60 Sub Part III.

◆ All Models are available for Export

+ Not Available in California

▼ Less than 100HP

▲ Greater than 99HP

SPECIFICATIONS

ITEM	JU4H MODELS					
	UF10/12/14	UF20/22/AB26/24	UF30/32/34	UFH8/H0/H2	UF40/42	UF58/50/52/54
Number of Cylinders	4					
Aspiration	NA		T			
Rotation*	CW					
Weight – lb (kg)	910 (413)		935 (424)			
Compression Ratio	17.6:1		17.0:1			
Displacement – cu. in. (L)	275 (4.5)					
Engine Type	4 Stroke Cycle – Inline Construction					
Bore & Stroke – in. (mm)	4.19 x 5.00 (106 x 127)					
Installation Drawing	D534					
Wiring Diagram AC	C07591					
Wiring Diagram DC	C071590					
Engine Series	John Deere 4045 Series					
Speed Interpolation	OPT.					

Abbreviations: CW – Clockwise NA – Naturally Aspirated T – Turbocharged

*Rotation viewed from Heat Exchanger / Front of engine

CERTIFIED POWER RATING

- Each engine is factory tested to verify power and performance.
- Although FM-UL ratings are shown at specific speeds, Clarke engines with optional speed interpolation can be applied at any intermediate speed. To determine the intermediate speed power; make a linear interpolation from the Clarke FM-UL power curve. Contact Clarke or your Pump OEM Representative to obtain details.

ENGINE RATINGS BASELINES

- Engines are to be used for stationary emergency standby fire pump service only. Engines are to be tested in accordance with NFPA 25.
- Engines are rated at standard SAE conditions of 29.61 in. (752.1 mm) Hg barometer and 77°F (25°C) inlet air temperature [approximates 300 ft. (91.4 m) above sea level] by the testing laboratory (see SAE Standard J 1349).
- A deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m)
- A deduction of 1 percent from engine horsepower rating as corrected to standard SAE conditions shall be made for diesel engines for every 10°F (5.6°C) above 77°F (25°C) ambient temperature.

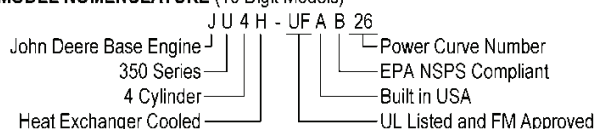


ENGINE EQUIPMENT

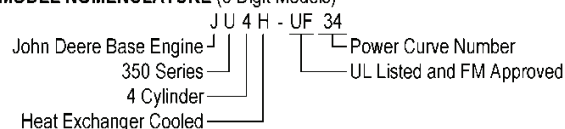
EQUIPMENT	STANDARD	OPTIONAL
Air Cleaner	Direct Mounted, Washable, Indoor Service with Drip Shield	Disposable, Drip Proof, Indoor Service Outdoor Type, Single or Two Stage
Alternator	12V-DC, 42 Amps with Poly-Vee Belt and Guard	24V-DC, 40 Amps with Poly-Vee Belt and Guard
Exhaust Protection	Blankets on UF10/12/14/20/22/AB26/24; Metal Guards on Manifolds and Turbocharger on UF30/32/34/H8/H0/H2/40/42/58/50/52/54	
Coupling	Bare Flywheel	Listed Driveshaft and Guard, UF10/12/14, UF20/22/AB26/24 – CDS10-SC; UF30/32/34, UFH8/H0/H2, UF40/42 – CDS20-SC; UF58/50/52/54 – CDS30-S1
Exhaust Flex Connection	For NA Engines - Stainless Steel Flex, NPT(M) Connection, 3" For T Engines – Stainless Steel Flex, NPT(M) Connection, 4"	For NA Engines – Stainless Steel Flex, NPT(M) Connection, 4" For T Engines - Stainless Steel Flex, 150# ANSI Flanged Connection, 5"
Flywheel Housing	SAE #3	
Flywheel Power Take Off	11.5" SAE Industrial Flywheel Connection	
Fuel Connections	Fire Resistant, Flexible, USA Coast Guard Approved, Supply and Return Lines	Stainless Steel, Braided, cUL Listed, Supply and Return Lines
Fuel Filter	Primary Filter with Priming Pump	
Fuel Injection System	Stanadyne Direct Injection	
Engine Heater	115V-AC, 1000 Watt	230V-AC, 1000 Watt
Governor, Speed	Constant Speed, Mechanical	
Heat Exchanger	Tube and Shell Type, 60 PSI (4 BAR), NPT(F) Connections – Sea/Salt Water Compatible	
Instrument Panel	English and Metric, Tachometer, Hourmeter, Water Temperature, Oil Pressure and Two (2) Voltmeters	
Junction Box	Integral with Instrument Panel; For DC Wiring Interconnection to Engine Controller	
Lube Oil Cooler	Engine Water Cooled, Plate Type	
Lube Oil Filter	Full Flow with By-Pass Valve	
Lube Oil Pump	Gear Driven, Gear Type	
Manual Start Control	On Instrument Panel with Control Position Warning Light	
Overspeed Control	Electronic with Reset and Test on Instrument Panel	
Raw Water Solenoid Operation	Automatic from Fire Pump Controller and from Engine Instrument Panel	
Run – Stop Control	On Instrument Panel with Control Position Warning Light	
Run Solenoid	12V-DC Energized to Run	12V-DC Energized to Stop; 24V-DC Energized to Run; 24V-DC Energized to Stop
Starters	Two (2) 12V-DC	Two (2) 24V-DC
Throttle Control	Adjustable Speed Control, Tamper Proof	
Water Pump	Centrifugal Type, Poly-Vee Belt Drive with Guard	

Abbreviations: DC –Direct Current, AC – Alternating Current, SAE – Society of Automotive Engineers, NPT(F) – National Pipe Tapered Thread (Female), NPT(M) – National Pipe Tapered Thread (Male), NA – Naturally Aspirated, T- Turbocharged, ANSI – American National Standards Institute

MODEL NOMENCLATURE (10 Digit Models)



MODEL NOMENCLATURE (8 Digit Models)



CLARKE®

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www.clarkefire.com

CLARKE UK, Ltd.
Grange Works, Lomond Rd., Coatbridge, ML5-2NN
United Kingdom
Tel +44-1236-429946 Fax +44-1236-427274
www.clarkefire.com

CLARKE

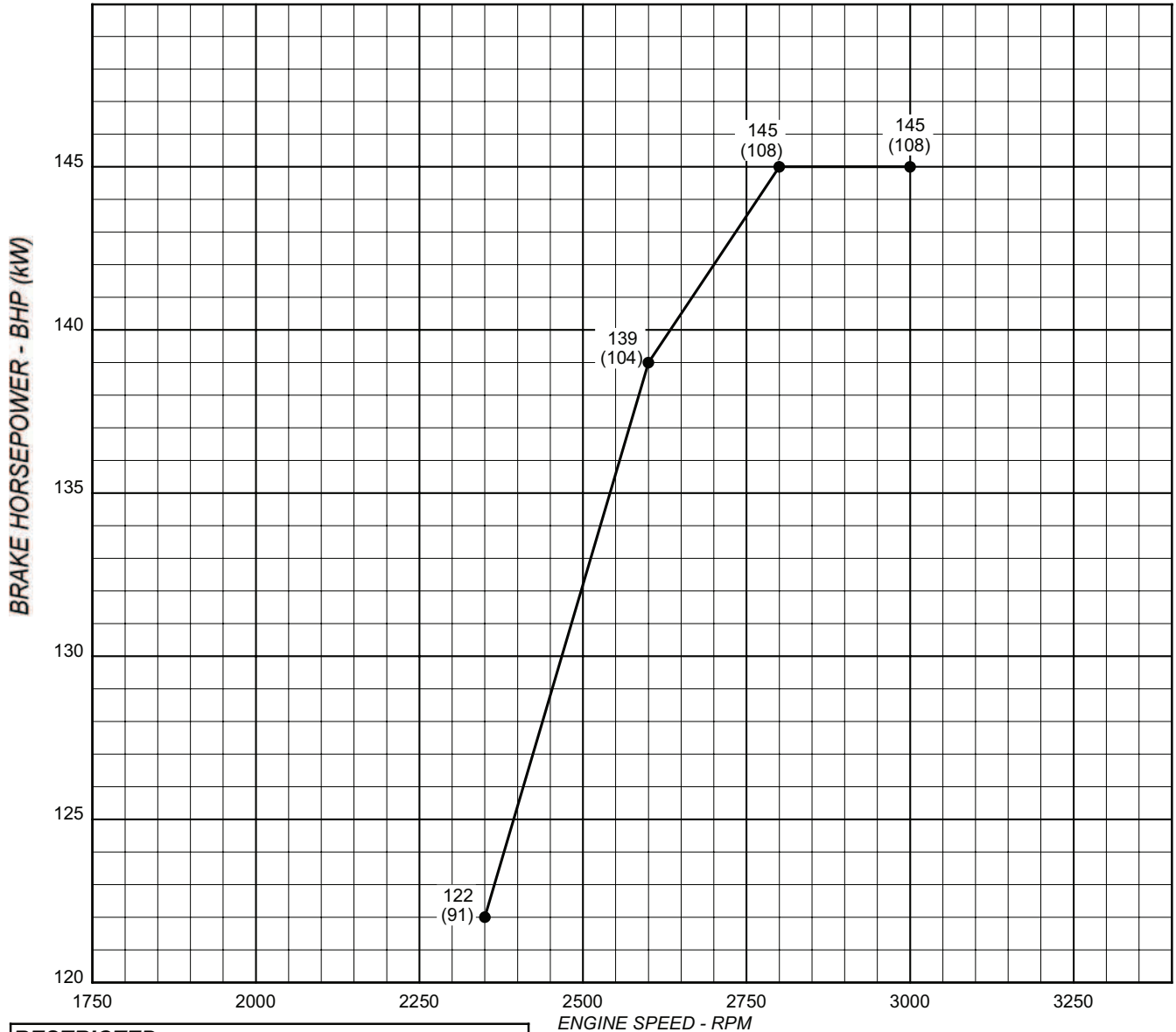
Fire Protection Products, Inc.

FIRE PUMP MODEL: JU4H-UF54

Heat Exchanger

Turbocharged

4.5L 4 Cylinder



RESTRICTED:

USE ONLY FOR STAND-BY FIRE PUMP APPLICATIONS

ENGINE PERFORMANCE:

STANDARD CONDITIONS: (SAE J1349, ISO 3046)
77°F (25°C) AIR INLET TEMPERATURE
29.61 IN. (751.1MM) HG BAROMETRIC PRESSURE
#2 DIESEL FUEL (SEE C13940)

Kevin Kunkler

KEVIN KUNKLER 19MAY04

—●— NAMEPLATE BHP (MAXIMUM PUMP LOAD)

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CREATED

KSE

DATE CREATED

05/19/04

ENGINE MODEL JU4H-UF54

DRAWING NO.

C131092

REV A



Fire Protection Products, Inc.

JU4H-UF54

INSTALLATION & OPERATION DATA (I&O Data)

USA Produced

Basic Engine Description

Engine Manufacturer	John Deere Co.
Ignition Type	Compression (Diesel)
Number of Cylinders	4
Bore and Stroke - in (mm)	4.19 (106) X 5 (127)
Displacement - in ³ (L)	275 (4.5)
Compression Ratio	17.0:1
Valves per cylinder	
Intake	1
Exhaust	1
Combustion System	Direct Injection
Engine Type	In-Line, 4 Stroke Cycle
Fuel Management Control	Mechanical, Rotary Pump
Firing Order (CW Rotation)	1-3-4-2
Aspiration	Turbocharged
Charge Air Cooling Type	None
Rotation, viewed from front of engine, Clockwise (CW)	Standard
Engine Crankcase Vent System	Open
Installation Drawing	D534
Weight - lb (kg)	935 (424)

Power Rating

	2350	2600	2800	3000
Nameplate Power - HP (kW)	122 (91)	139 (104)	145 (108)	145 (108)

Cooling System - [C051128]

	2350	2600	2800	3000
Engine Coolant Heat - Btu/sec (kW)	57 (60.1)	69 (72.8)	80 (84.4)	82 (86.5)
Engine Radiated Heat - Btu/sec (kW)	27.6 (29.1)	31.6 (33.3)	32.8 (34.6)	32.8 (34.6)
Heat Exchanger Minimum Flow				
60°F (15°C) Raw H ₂ O - gal/min (L/min)	7 (26.5)	7 (26.5)	8 (30.3)	9 (34.1)
95°F (35°C) Raw H ₂ O - gal/min (L/min)	8 (30.3)	11 (41.6)	12 (45.4)	14 (53)
Heat Exchanger Maximum Cooling Raw Water				
Inlet Pressure - psi (bar)	60 (4.1)			
Flow - gal/min (L/min)	40 (151)			
Typical Engine H ₂ O Operating Temp - °F (°C) ^[1]	170 (76.7) - 190 (87.8)			
Thermostat				
Start to Open - °F (°C)	170 (76.7)			
Fully Opened - °F (°C)	190 (87.8)			
Engine Coolant Capacity - qt (L)	14.8 (14)			
Coolant Pressure Cap - lb/in ² (kPa)	10 (68.9)			
Maximum Engine Coolant Temperature - °F (°C)	200 (93.3)			
Minimum Engine Coolant Temperature - °F (°C)	160 (71.1)			
High Coolant Temp Alarm Switch - °F (°C)	205 (96.1)			

Electric System - DC

	Standard		Optional	
System Voltage (Nominal)	12		24	
Battery Capacity for Ambients Above 32°F (0°C)				
Voltage (Nominal)	12	[C07633]	24	[C07633]
Qty. Per Battery Bank	1		2	
SAE size per J537	8D		8D	
CCA @ 0°F (-18°C)	1400		1400	
Reserve Capacity - Minutes	430		430	
Battery Cable Circuit, Max Resistance - ohm	0.0012		0.0012	
Battery Cable Minimum Size				
0-120 in. Circuit Length ^[2]	00		00	
121-160 in. Circuit Length ^[2]	000		000	
161-200 in. Circuit Length ^[2]	0000		0000	
Charging Alternator Maximum Output - Amp,	40	[C07639]	18	[C071048]
Starter Cranking Amps, Rolling - @60°F (15°C)	345	[RE59595/RE59589]	250	[C07819/C07820]

NOTE: This engine is intended for indoor installation or in a weatherproof enclosure. ¹Engine H₂O temperature is dependent on raw water temperature and flow. ²Positive and Negative Cables Combined Length.



Fire Protection Products, Inc.

JU4H-UF54

INSTALLATION & OPERATION DATA (I&O Data)

USA Produced



Exhaust System

	<u>2350</u>	<u>2600</u>	<u>2800</u>	<u>3000</u>
Exhaust Flow - ft. ³ /min (m ³ /min)	768 (21.7)	934 (26.4)	1061 (30)	1193 (33.8)
Exhaust Temperature - °F (°C)	1129 (609)	1132 (611)	1124 (607)	1098 (592)
Maximum Allowable Back Pressure - in H ₂ O (kPa)	30 (7.5)	30 (7.5)	30 (7.5)	30 (7.5)
Minimum Exhaust Pipe Dia. - in (mm) ^[3]	4 (102)	4 (102)	4 (102)	4 (102)

Fuel System

	<u>2350</u>	<u>2600</u>	<u>2800</u>	<u>3000</u>
Fuel Consumption - gal/hr (L/hr)	7.2 (27.3)	10.3 (39)	10 (37.8)	11.4 (43.1)
Fuel Return - gal/hr (L/hr)	9 (34.1)	9.5 (36)	9.9 (37.5)	10.3 (39)
Fuel Supply - gal/hr (L/hr)	16.2 (61.3)	19.8 (74.9)	19.9 (75.3)	21.7 (82.1)
Fuel Pressure - lb/in ² (kPa)	3 (20.7) - 6 (41.4)			
Minimum Line Size - Supply - in.50 Schedule 40 Steel Pipe			
Pipe Outer Diameter - in (mm)	0.848 (21.5)			
Minimum Line Size - Return - in.375 Schedule 40 Steel Pipe			
Pipe Outer Diameter - in (mm)	0.675 (17.1)			
Maximum Allowable Fuel Pump Suction Lift with clean Filter - in H ₂ O (mH ₂ O)	31 (0.8)			
Maximum Allowable Fuel Head above Fuel pump, Supply or Return - ft (m) ..	4.5 (1.4)			
Fuel Filter Micron Size	2			

Heater System

	<u>Standard</u>	<u>Optional</u>
Engine Coolant Heater		
Wattage (Nominal)	1000	1000
Voltage - AC, 1 Phase	115 (+5%, -10%)	230 (+5%, -10%)
Part Number	[C122188]	[C122192]

Air System

<u>System</u>	<u>2350</u>	<u>2600</u>	<u>2800</u>	<u>3000</u>
Combustion Air Flow - ft. ³ /min (m ³ /min) -----	259 (7.3)	315 (8.9)	362 (10.3)	413 (11.7)
Air Cleaner	<u>Standard</u>		<u>Optional</u>	
Part Number -----	[C03249]		[C03327]	
Type -----	Indoor Service Only, with Shield		Canister, Single-Stage	
Cleaning method -----	Washable		Disposable	
Air Intake Restriction Maximum Limit				
Dirty Air Cleaner - in H ₂ O (kPa) -----	10 (2.5)		10 (2.5)	
Clean Air Cleaner - in H ₂ O (kPa) -----	5 (1.2)		5 (1.2)	
Maximum Allowable Temperature (Air To Engine Inlet) - °F (°C) ^[4] -----	130 (54.4)			

Lubrication System

Oil Pressure - normal - lb/in ² (kPa)	50 (345) - 95 (655)
Low Oil Pressure Alarm Switch - lb/in ² (kPa)	20 (138)
In Pan Oil Temperature - °F (°C)	220 (104) - 245 (118)
Total Oil Capacity with Filter - qt (L)	15.5 (14.7)

Lube Oil Heater

	<u>Optional</u>	<u>Optional</u>
Wattage (Nominal)	150	150
Voltage	120V (+5%, -10%)	240V (+5%, -10%)
Part Number	C04430	C04431

Performance

	<u>2350</u>	<u>2600</u>	<u>2800</u>	<u>3000</u>
BMEP - lb/in ² (kPa)	150 (1030)	154 (1060)	149 (1030)	139 (958)
Piston Speed - ft/min (m/min)	1958 (597)	2167 (661)	2333 (711)	2500 (762)
Mechanical Noise - dB(A) @ 1m	C131535			
Power Curve	C131946			

³Based on Nominal System. Back pressure flow analysis must be done to assure maximum allowable back pressure is not exceeded. (Note: minimum exhaust Pipe diameter is based on: 15 feet of pipe, one 90° elbow, and a silencer pressure drop no greater than one half of the maximum allowable back pressure.) ⁴Review for horsepower derate if ambient air entering engine exceeds 77°F (25°C). [] indicates component reference part number.

JU4H, JU4R & JU6H, JU6R ENGINE MODELS ENGINE MATERIALS AND CONSTRUCTION

Air Cleaner

Type..... Indoor Usage Only
Oiled Fabric Pleats
Material..... Surgical Cotton
Aluminum Mesh

Air Cleaner - Optional

Type..... Canister
Material..... Pleated Paper
Housing..... Enclosed

Camshaft

Material..... Cast Iron
Chill Hardened
Location..... In Block
Drive..... Gear, Spur
Type of Cam..... Ground

Charge Air Cooler (JU6H-60,62,68,74,84, ADK0, AD58, ADNG, ADN0, ADQ0, ADR0, AAQ8, AARG, ADP8, ADP0, ADT0, AD88, ADR8, AD98, ADS0, ADW8, ADX8, AD98 only)

Type..... Raw Water Cooled
Materials (in contact with raw water)
Tubes..... 90/10 CU/NI
Headers..... 36500 Muntz
Covers..... 83600 Red Brass
Plumbing..... 316 Stainless Steel/ Brass
90/10 Silicone

Charge Air Cooler (JU6R-AA67, 59, 61, PF, Q7, RF, S9, 83 only)

Type..... Air to Air Cooled
Materials
Core..... Aluminum

Coolant Pump

Type..... Centrifugal
Drive..... Poly Vee Belt

Coolant Thermostat

Type..... Non Blocking
Qty..... 1

Connecting Rod

Type..... I-Beam Taper
Material..... Forged Steel Alloy

Crank Pin Bearings

Type..... Precision Half Shell
Number..... 1 Pair Per Cylinder
Material..... Wear-Guard

Crankshaft

Material..... Forged Steel
Type of Balance..... Dynamic

Cylinder Block

Type..... One Piece with
Non-Siamese Cylinders
Material..... Annealed Gray Iron

Cylinder Head

Type..... Slab 2 Valve
Material..... Annealed Gray Iron

Cylinder Liners

Type..... Centrifugal Cast, Wet Liner
Material..... Alloy Iron Plateau, Honed

Fuel Pump

Type..... Diaphragm
Drive..... Cam Lobe

Heat Exchanger (USA) - JU4H & JU6H Only

Type..... Tube & Shell
Materials
Tube & Headers..... Copper
Shell..... Copper
Electrode..... Zinc

Heat Exchanger (UK) - JU4H & JU6H Only

Type..... Tube & Bundle
Materials
Tube & Headers..... Copper
Shell..... Aluminum

Injection Pump

Type..... Rotary
Drive..... Gear

Lubrication Cooler

Type..... Plate

Lubrication Pump

Type..... Gear
Drive..... Gear

Main Bearings

Type..... Precision Half Shells
Material..... Steel Backed-Aluminum Lined

Piston

Type and Material..... Aluminum Alloy with Reinforced
Top Ring Groove
Cooling..... Oil Jet Spray

Piston Pin

Type..... Full Floating - Offset

Piston Rings

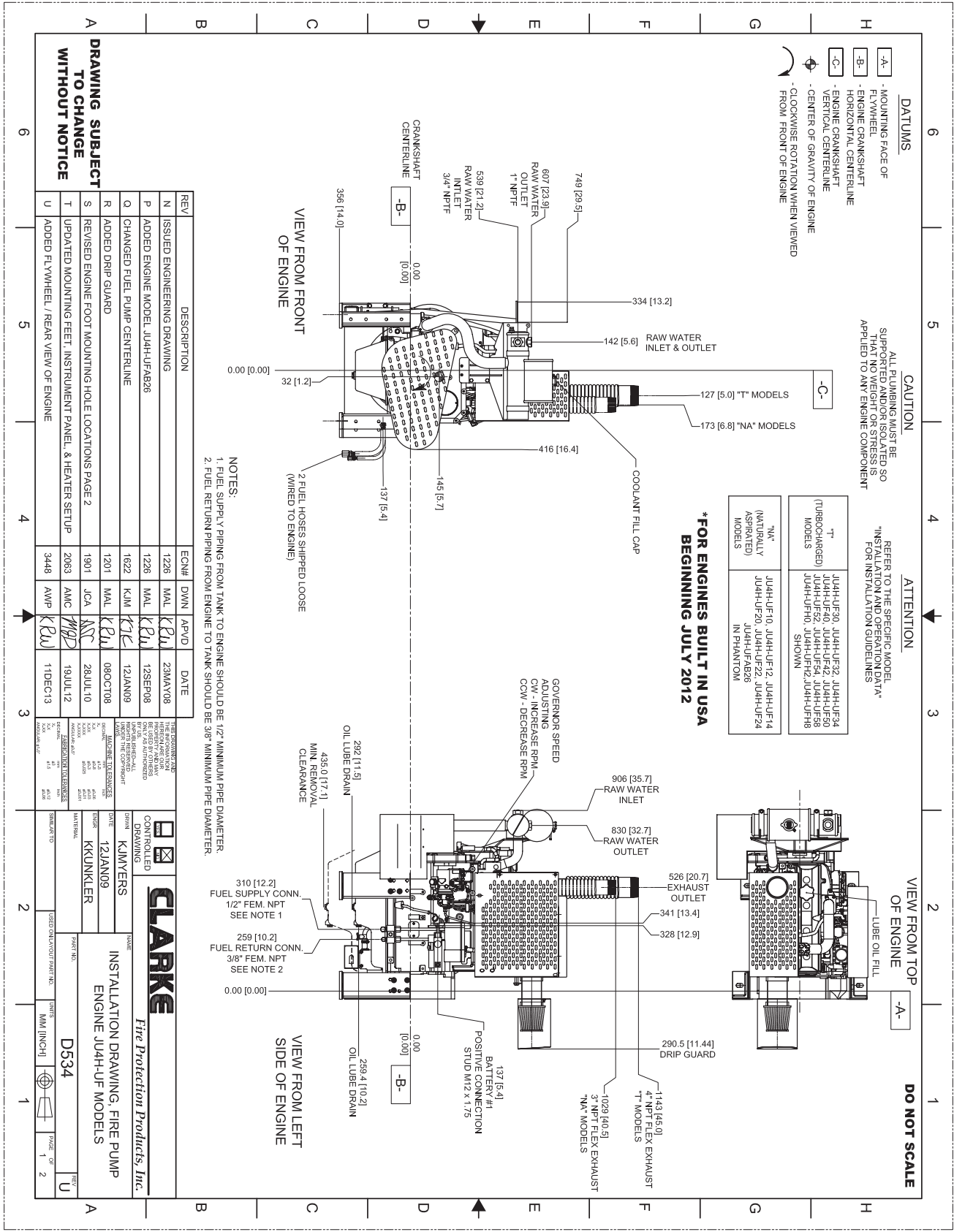
Number/Piston..... 3
Top..... Keystone Barrel Faced -
Plasma Coated
Second..... Tapered Cast Iron
Third..... Double Rail Type
w/Expander Spring

Radiator - JU4R & JU6R Only

Type..... Plate Fin
Materials
Core..... Copper & Brass
Tank & Structure..... Steel

Valves

Type..... Poppet
Arrangement..... Overhead Valve
Number/Cylinder..... 1 intake
1 exhaust
Operating Mechanism..... Mechanical Rocker Arm
Type of Lifter..... Large Head
Valve Seat Insert..... Replaceable



6

5

4

3

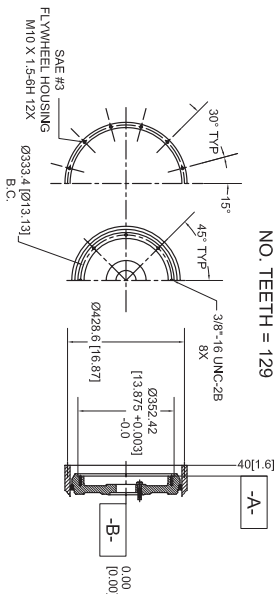
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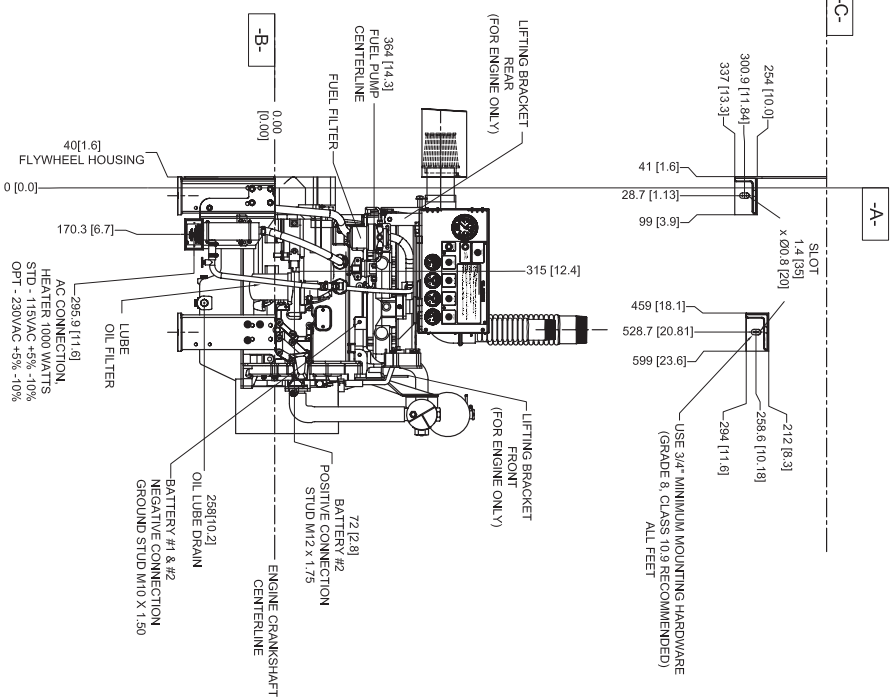
DO NOT SCALE

FOR ENGINE SPECIFIC OPTIONS
SEE WWW.CLARKEFIRE.COM

DETAIL DATUM -A-
BARE FLYWHEEL
NO. TEETH = 129



VIEW FROM REAR
OF ENGINE



VIEW FROM RIGHT
SIDE OF ENGINE

*FOR ENGINES BUILT IN USA
BEGINNING JULY 2012

DRAWING SUBJECT
TO CHANGE
WITHOUT NOTICE

CLARKE <i>Fire Protection Products, Inc.</i>		ENGINE J44H-UF MODELS	
CONTROLLED DRAWING DATE: 12/24/09 BY: KJUNGLER MATERIAL:	DRAWN: KJMYERS CHECKED: KJMYERS APPROVED: KJMYERS SCALE: 1:1 DIMENSIONS: 1/16"	PART NO.: D534 QUANTITY: 2 UNIT: MM (INCH)	TRADE: 2 2

JU4H-UF54

Stationary Fire Pump Engine Driver

EMISSION DATA

EPA 40 CFR Part 60

4 Cylinders
Four Cycle
Lean Burn
Turbocharged

500 PPM SULFUR #2 DIESEL FUEL								
RPM	BHP ⁽³⁾	FUEL GAL/HR (L/HR)	GRAMS / HP/ HR				EXHAUST	
			NMHC	NO _x	CO	PM ⁽⁴⁾	°F (°C)	CFM (m ³ /min)
2800	145	10.6 (40.1)	0.20	3.48	0.70	0.11	1124 (607)	1061 (30.0)
3000	145	11.4 (43.2)	0.21	3.57	0.85	0.13	1098 (592)	1193 (33.8)

Notes:

- 1) 4045TF252 Base Engine Model manufactured by John Deere Corporation.
For John Deere Emissions Conformance to EPA 40 CFR Part 60 see Page 2 of 2.
- 2) The Emission Warranty for this engine is provided directly to the owner
by John Deere Corporation. A copy of the John Deere Emission Warranty can
be found in the Clarke Operation and Maintenance Manual.
- 3) Engines are rated at standard conditions of 29.61in. (7521 mm) Hg barometer
and 77°F (25° C) inlet air temperature. (SAE J1349)
- 4) PM is a measure of total particulate matter, including PM₁₀.

CLARKE

FIRE PROTECTION PRODUCTS

3133 EAST KEMPER ROAD
CINCINNATI, OH 45241

C131870 REV.D
01NOV 07 KRW

PAGE 1 OF 2

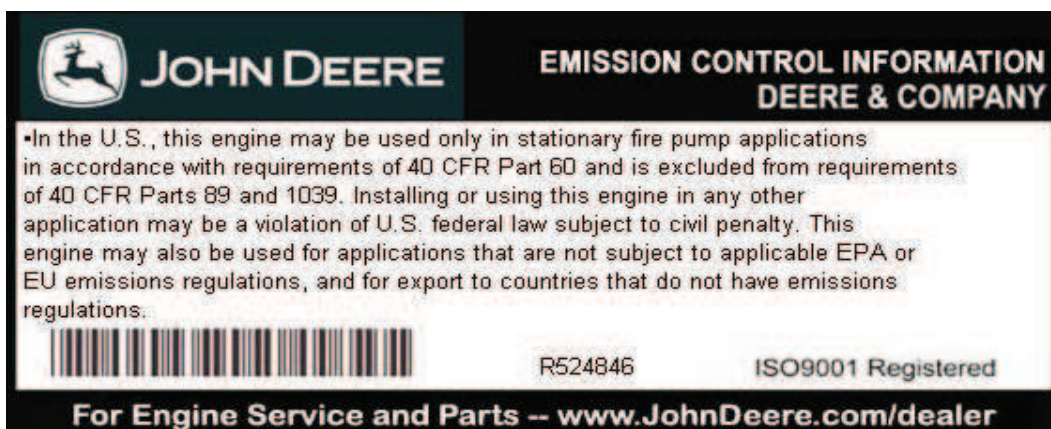


John Deere Power Systems
3801 W. Ridgeway Ave., PO Box 5100
Waterloo, Iowa USA 50704-5100

31 October 2007

Subject: Fire Pump Ratings – Conformance to EPA 40 CFR Part 60 (NSPS requirements)

All John Deere stationary fire pump engines conform to the requirements of 40 CFR Part 60. All such engines include an emission label, stating the engine conforms to the requirements of 40 CFR Part 60. An example of the emission label is shown below:



This label applies to all of the following engine models, sold to Clarke Fire Protection, for use in stationary fire pump applications:

John Deere Engine Model
4045DF120
4045DF159
4045TF252
4045TF254
4045TF220
6068TF252
6068TF254
6068HF252
6068HF254
6068HF120
6068TF220
6081AF001
6081HF001
6125AF001
6125HF070

All engines conforming to 40 CFR Part 60 (identified by emission label, as shown above) are covered under the emissions warranty of 40 CFR Part 89.

Sincerely,

Kyle J. Tingle
Regional Sales Manager, JDPS

JU4H-UF54

FIRE PUMP DRIVER

NOISE DATA

Mechanical Engine Noise *

RPM	BHP	OVERALL dB(A)	Octave Band									
			31.5 Hz dB(A)	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1k Hz dB(A)	2k Hz dB(A)	4k Hz dB(A)	8k Hz dB(A)	16k Hz dB(A)
2800	145	106.8	66.3	68.3	82.2	89.3	96.7	98.2	100.3	100.2	98.3	87.7
3000	145	107.9	67.8	69.9	81.0	90.3	98.5	100.3	99.7	101.2	99.6	87.7

Raw Exhaust Engine Noise **

RPM	BHP	OVERALL dB(A)	Octave Band									
			31.5 Hz dB(A)	63 Hz dB(A)	125 Hz dB(A)	250 Hz dB(A)	500 Hz dB(A)	1k Hz dB(A)	2k Hz dB(A)	4k Hz dB(A)	8k Hz dB(A)	16k Hz dB(A)
2800-3000	145	105.8		95.6	100.0	94.7	96.9	96.5	99.2	95.4	86.1	79.7

* Values above are provided at 3.3ft (1m) from engine block and do not include the raw exhaust noise.

** Values above are provided at 23ft (7m), 90° horizontal, from a vertical exhaust outlet and does not include noise created mechanically by the engine.

The above data reflects values for a typical engine of this model, speed and power in a free-field environment.

Installation specifics such as background noise level and amplification of noise levels from reflecting off of surrounding objects, will affect the overall noise levels observed. As a result of this, Clarke makes no guarantees to the above levels in an actual installation.

BRISTOL	Vendor Ref. No.	Doc. Seq. No. 01	Revision No. 00
	Vendor Doc. No.		
Contractor Name:			
Project Name:			

DIESEL FIRE PUMP CONTROLLER DATA

Fire Fighting Solutions Provider



Project: _____
Customer: _____
Engineer: _____
Pump Manufacturer: _____

Technical Data Submittal Documents

Model GPD Diesel Engine Driven Fire Pump Controller



Contents:

- Data Sheets
- Dimensional Data
- Wiring Schematics
- Field Connections

Note: The drawings included in this package are for controllers covered under our standard offering.
Actual AS BUILT drawings may differ from what is shown in this package.



Technical Data

GPD Diesel Fire Pump Controller

Standard, Listings, Approvals and Certifications	Built to NFPA 20 (latest edition)	
	Underwriters Laboratory (UL)	<ul style="list-style-type: none"> • UL218 - Fire Pump Controllers • CSA C22.2 No. 14 Industrial Control Equipment
	FM Global	Class 1321/1323
	New York City	Accepted for use in the City of New York by the Department of Buildings
	Optional	
	<input type="checkbox"/> CE Mark	Various EN, IEC & CEE directives and standards
Enclosure	Protection Rating <input type="checkbox"/> Standard: NEMA 2 (IP31) Optional <div> <input type="checkbox"/> NEMA 12 <input type="checkbox"/> NEMA 4X-304 sst painted <input type="checkbox"/> IP54 </div> <div> <input type="checkbox"/> NEMA 3 <input type="checkbox"/> NEMA 4X-304 sst brushed finish <input type="checkbox"/> IP55 </div> <div> <input type="checkbox"/> NEMA 3R <input type="checkbox"/> NEMA 4X-316 sst painted <input type="checkbox"/> IP65 </div> <div> <input type="checkbox"/> NEMA 4 <input type="checkbox"/> NEMA 4X-316 sst brushed finish <input type="checkbox"/> IP66 </div>	
	Accessories <ul style="list-style-type: none"> • Bottom entry gland plate • Lifting Lugs • Keylock handle 	Paint Specifications <ul style="list-style-type: none"> • Red RAL3002 • Powder coating • Glossy textured finish
Ambient Temperature Rating	Standard <input type="checkbox"/> 5°C to 40°C / 41°F to 104°F Optional <input type="checkbox"/> 5°C to 50°C / 41°F to 122°F <input type="checkbox"/> 5°C to 55°C / 41°F to 131°F	
General	AC	<input type="checkbox"/> 120V / 1ph / 60hz <input type="checkbox"/> 208V to 240V / 1ph / 50-60hz
	DC	<input type="checkbox"/> 12VDC <input type="checkbox"/> 24VDC
	Grounding system	• Negative
	Battery chargers	<ul style="list-style-type: none"> • Two independent fully automatic • 10A continuous charge • 500mA trickle charge
Electrical Reading	<ul style="list-style-type: none"> • Battery 1 & Battery 2 voltage • Battery 1 & Battery 2 charging amperage • Charging mode 	
Pressure Reading	<ul style="list-style-type: none"> • Continuous system pressure display • Cut-in and Cut-out pressure setting 	
Pressure and Event Recorder	<ul style="list-style-type: none"> • Pressure readings with date stamp • Event recording with date stamp • Under regular maintained operation, events can be stored in memory for up to 5 years • Data viewable on operator interface display screen • Downloadable by USB port to external memory device 	





Technical Data GPD Diesel Fire Pump Controller

Pressure sensing	<ul style="list-style-type: none">• Pressure transducer and run test solenoid valve assembly for fresh water application• Pressure sensing connection 1/2" Female NPT• Drain connection 3/8"• Rated for 0-500psi Working pressure (calibrated at 0-300psi)• Externally mounted with protective cover		
Audible Alarm	4" alarm bell - 85 dB at 10ft. (3m)		
Visual & Audible Alarms	<div>Visual only<ul style="list-style-type: none">• Engine run• Main switch AUTO• Pump room temperature (°F or °C)</div> <div>Visual and Audible<ul style="list-style-type: none">• Overspeed• Low oil pressure• High engine temperature• Fail to start• High fuel level</div>	<ul style="list-style-type: none">• Periodic test• Main switch in HAND• Battery #1 & battery #2 failure• Charger #1 & Charger #2 failure• AC power available• Low pump room temperature• System overpressure	<ul style="list-style-type: none">• Cranking Cycle• Main switch in OFF• Low fuel level• Water reservoir low• Fuel tank leak• Fail when running
Remote Alarm Contacts	<div>SPDT-8A-250V.AC<ul style="list-style-type: none">• Engine run (2x) (1x field re-assignable)*• Common controller trouble<ul style="list-style-type: none">• Charger #1 & Charger #2 failure• Pressure line failure• Common engine trouble<ul style="list-style-type: none">• High engine temperature• Fail to start• Fuel injection malfunction**• ECM selector switch in alternate position***• Common pump room alarm (field re-assignable)*<ul style="list-style-type: none">• Low fuel level• High fuel level• Fuel tank leak• Low suction pressure• Low pump room temperature• High pump room temperature• H-O-A selector switch in AUTO (field re-assignable)*• H-O-A selector switch in OFF or HAND• Free (field programmable)*</div>		
ViZiTouch Operator Interface	<ul style="list-style-type: none">• Embedded micro-computer with software PLC logic• 4.2" color touch screen (HMI technology)• Upgradable software• Expandable storage• Multi-language		

*Except if option C13 is ordered. Tornatech reserves the right to use any of these four alarm points for special specific application requirements

**Applicable to electronic engines only.

*** Applicable to electronic engines only. Alarms when ECM selector switch on the engine is in alternate mode.



Technical Data GPD Diesel Fire Pump Controller

Operation	Selector Switch	<ul style="list-style-type: none"> • Hand-Off-Auto • Behind lockable and breakable cover 	
	Automatic Start	<ul style="list-style-type: none"> • Start on pressure drop • Remote start signal from automatic device 	
	Manual Start	<ul style="list-style-type: none"> • Crank 1 and Crank 2 start pushbuttons • Run test pushbutton • Deluge valve start • Remote start from manual device 	
	Crank Cycle	<ul style="list-style-type: none"> • 6 consecutive cycle attempts <ul style="list-style-type: none"> • 3 X 15s crank from battery 1 or 2 alternatively • 15s rest in between each crank attempt 	
	Stopping	<ul style="list-style-type: none"> • Manual with Stop pushbutton • Automatic after expiration of minimum run timer *** 	
	Timers	Field Adjustable & Visual Countdown	<ul style="list-style-type: none"> • Minimum run timer ***(off delay) • Sequential start timer (on delay) • Periodic test timer
	Actuation	Visual Indication	<ul style="list-style-type: none"> • Pressure • Non-pressure
	Mode		<ul style="list-style-type: none"> • Automatic • Non-automatic

Alarm and shutdown schedule		Automatic Start	Manual or Remote start	Run Test or periodic test
	High Coolant	Alarm only	Alarm only	Shutdown
	Low Oil Pressure	Alarm only	Alarm only	Shutdown
	Overspeed	Shutdown	Shutdown	Shutdown

	Wall Mount		Floor Mount	
Starting Voltage	Approx. shipping dimensions in inches (mm)	Approx. Shipping Weight in Lbs (kg)	Approx. shipping dimensions in inches (mm)	Approx. Shipping Weight in Lbs (kg)
12V.DC	32 "L x 29 "W x 16 "h (813 x 737 x 407)	110 (50)	32"L x 29"w x 26"h (813 x 737 x 661)	130 (59)
24V.DC	32 "L x 29 "W x 16 "h (813 x 737 x 407)	130 (59)	32"L x 29"w x 26"h (813 x 737 x 661)	150 (68)

*** Automatic shutdown shall be approved by the AHJ.



Technical Data GPD Diesel Fire Pump Controller

<input type="checkbox"/> A1	Periodic test alarm contact (Form C-SPDT)
<input type="checkbox"/> A2	Overspeed alarm contact (Form C-SPDT)
<input type="checkbox"/> A3	Low oil pressure alarm contact (Form C-SPDT)
<input type="checkbox"/> A4	High coolant temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> A5	Failure to start alarm contacts alarm contact (Form C-SPDT)
<input type="checkbox"/> A6	Battery 1 & 2 failure alarm contact (2 x Form C-SPDT)
<input type="checkbox"/> A7	Charger 1 & 2 failure alarm contact (2 x Form C-SPDT)
<input type="checkbox"/> A8	AC failure alarm contact (Form C-SPDT)
<input type="checkbox"/> A9	System overpressure alarm contact (For engines with PLD) (Form C-SPDT)
<input type="checkbox"/> A11	Extra controller trouble alarm contact (Form C-SPDT)
<input type="checkbox"/> A12	Extra engine trouble alarm contact (Form C-SPDT)
<input type="checkbox"/> Ax	Additional engine alarm contact (Form C-SPDT) (specify function)
<input type="checkbox"/> B1	Low fuel level alarm contact (Form C-SPDT)
<input type="checkbox"/> B2	Water reservoir level low alarm contact (Form C-SPDT)
<input type="checkbox"/> B3	Water reservoir empty alarm contact (Form C-SPDT)
<input type="checkbox"/> B4	Low pump room temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> B5	High fuel level alarm contact (Form C-SPDT)
<input type="checkbox"/> B6	Low system (discharge) pressure alarm contact (Form C-SPDT)
<input type="checkbox"/> B7	Low suction pressure alarm contact (Form C-SPDT)
<input type="checkbox"/> B8	Pump on demand alarm contact (Form C-SPDT)
<input type="checkbox"/> B9	Fuel tank leak alarm contact (Form C-SPDT)
<input type="checkbox"/> B10	Main relief valve open alarm contact (Form C-SPDT)
<input type="checkbox"/> B11	Flow meter loop valve open alarm contact (Form C-SPDT)
<input type="checkbox"/> B12	Water reservoir level high alarm contact (Form C-SPDT)
<input type="checkbox"/> B13	High pump room temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> Bx	Additional pump room alarm contact (Form C-SPDT) (specify function)
<input type="checkbox"/> C5	CE Mark with factory certificate
<input type="checkbox"/> C6	Nickel – Cadmium battery chargers
<input type="checkbox"/> C7	Engine block heater circuit (same voltage as battery charger primary)
<input type="checkbox"/> C8	Foam pump application w/o pressure transducer and run test solenoid valve
<input type="checkbox"/> C9	Non pressure actuated controller w/o pressure transducer and run test solenoid valve
<input type="checkbox"/> C13	Louver activation circuit (battery power specific)

<input type="checkbox"/> C14	Delayed automatic start on AC power failure (factory set at 15 minutes)
<input type="checkbox"/> C15	Low zone pump control function
<input type="checkbox"/> C16	Medium zone pump control function
<input type="checkbox"/> C17	High zone pump control function
<input type="checkbox"/> C19	Lockout/interlock circuit from equipment installed inside the pump room
<input type="checkbox"/> D4	Pressure transducer and run test solenoid valve for fresh water rated for 0-500PSI (for calibration purposes only)
<input type="checkbox"/> D6	Pressure transducer and run test solenoid valve for sea water rated for 0-500PSI
<input type="checkbox"/> D7A	Low fuel level float switch supplied as separate item (1-1/4")
<input type="checkbox"/> D7B	Low fuel level float switch supplied as separate item (1-1/2")
<input type="checkbox"/> D8A	High fuel level float switch supplied as separate item (1-1/4")
<input type="checkbox"/> D8B	High fuel level float switch supplied as separate item (1-1/2")
<input type="checkbox"/> D9A	Anti-condensation heater & thermostat
<input type="checkbox"/> D9B	Anti-condensation heater & humidistat
<input type="checkbox"/> D9C	Anti-condensation heater & thermostat & humidistat
<input type="checkbox"/> D11	Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> D11A	Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> D12	Tropicalization
<input type="checkbox"/> D25	Mounting stand
<input type="checkbox"/> D25A	Mounting stand SST- 304 painted
<input type="checkbox"/> D25B	Mounting stand SST- 304 brushed finish
<input type="checkbox"/> D25C	Mounting stand SST- 316 painted
<input type="checkbox"/> D25D	Mounting stand SST- 316 brushed finish
<input type="checkbox"/> D26	Combined low and high fuel level float switch (1-1/4")
<input type="checkbox"/> D26A	Combined low and high fuel level float switch (1-1/2")
<input type="checkbox"/> D27	Fuel level probe (1-1/4") Level indication
<input type="checkbox"/> D28	Field programmable I/O board - 8 Input / 5 output
<input type="checkbox"/> D29	Field programmable I/O board - 8 Input / 10 output
<input type="checkbox"/> D30	Redundant pressure transducer for fresh water rated for 0-500PSI (calibrated at 0-300PSI)
<input type="checkbox"/> D31	Redundant pressure transducer for sea water rated for 0-500PSI (calibrated at 0-300PSI)
<input type="checkbox"/> D32	Modbus RTU provision
<input type="checkbox"/> D32A	Modbus TCP/IP provision
<input type="checkbox"/> D33	Window kit for operator interface

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



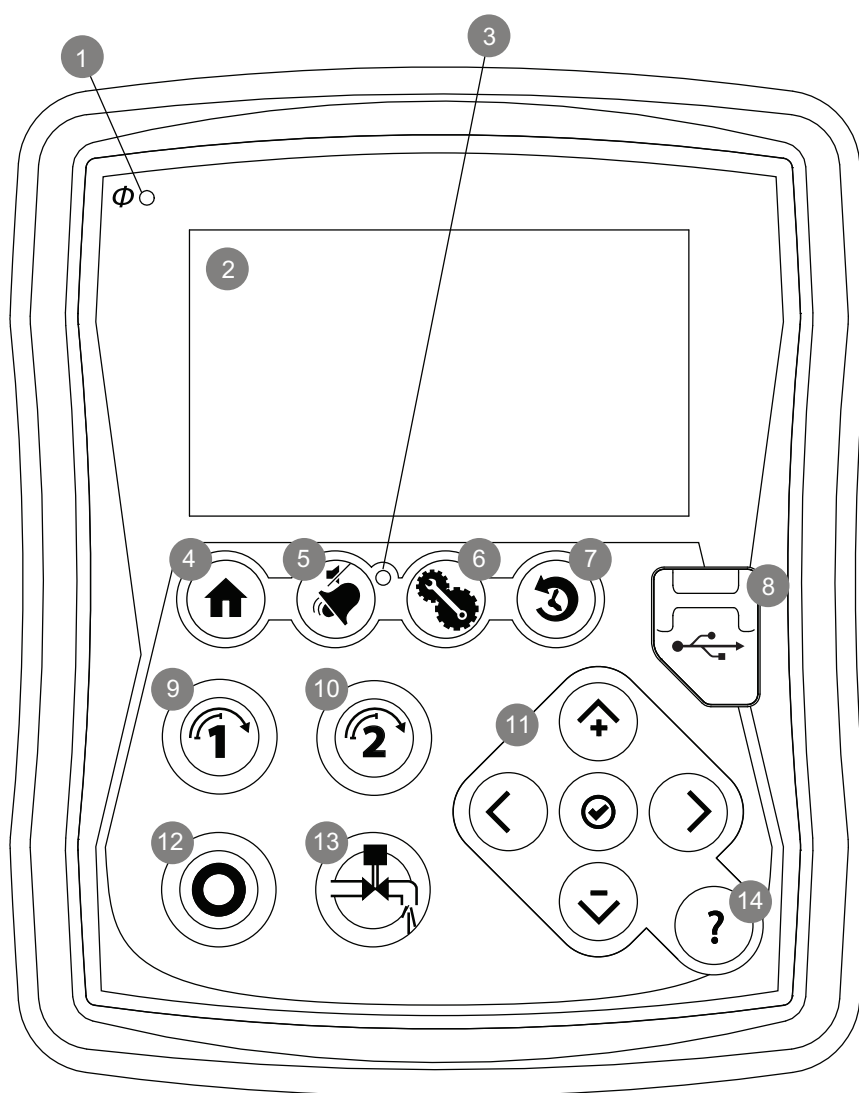
Technical Data GPD Diesel Fire Pump Controller

<input type="checkbox"/> L01	Other language and English (bilingual)
<input type="checkbox"/> L02	French
<input type="checkbox"/> L03	Spanish
<input type="checkbox"/> L04	German
<input type="checkbox"/> L05	Italian
<input type="checkbox"/> L06	Polish
<input type="checkbox"/> L07	Romanian
<input type="checkbox"/> L08	Hungarian
<input type="checkbox"/> L09	Slovak
<input type="checkbox"/> L10	Croatian

<input type="checkbox"/> L11	Czech
<input type="checkbox"/> L12	Portuguese
<input type="checkbox"/> L13	Dutch
<input type="checkbox"/> L14	Russian
<input type="checkbox"/> L15	Turkish
<input type="checkbox"/> L16	Swedish
<input type="checkbox"/> L17	Bulgarian
<input type="checkbox"/> L18	Thai
<input type="checkbox"/> L19	Indonesian
<input type="checkbox"/> L20	Slovenian

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.

ViZiTouch Operator Interface



- 1 - Power on LED
- 2 - Color touch screen
- 3 - Alarm LED
- 4 - HOME page button
- 5 - ALARM page button
- 6 - CONFIGURATION page button
- 7 - HISTORY page button

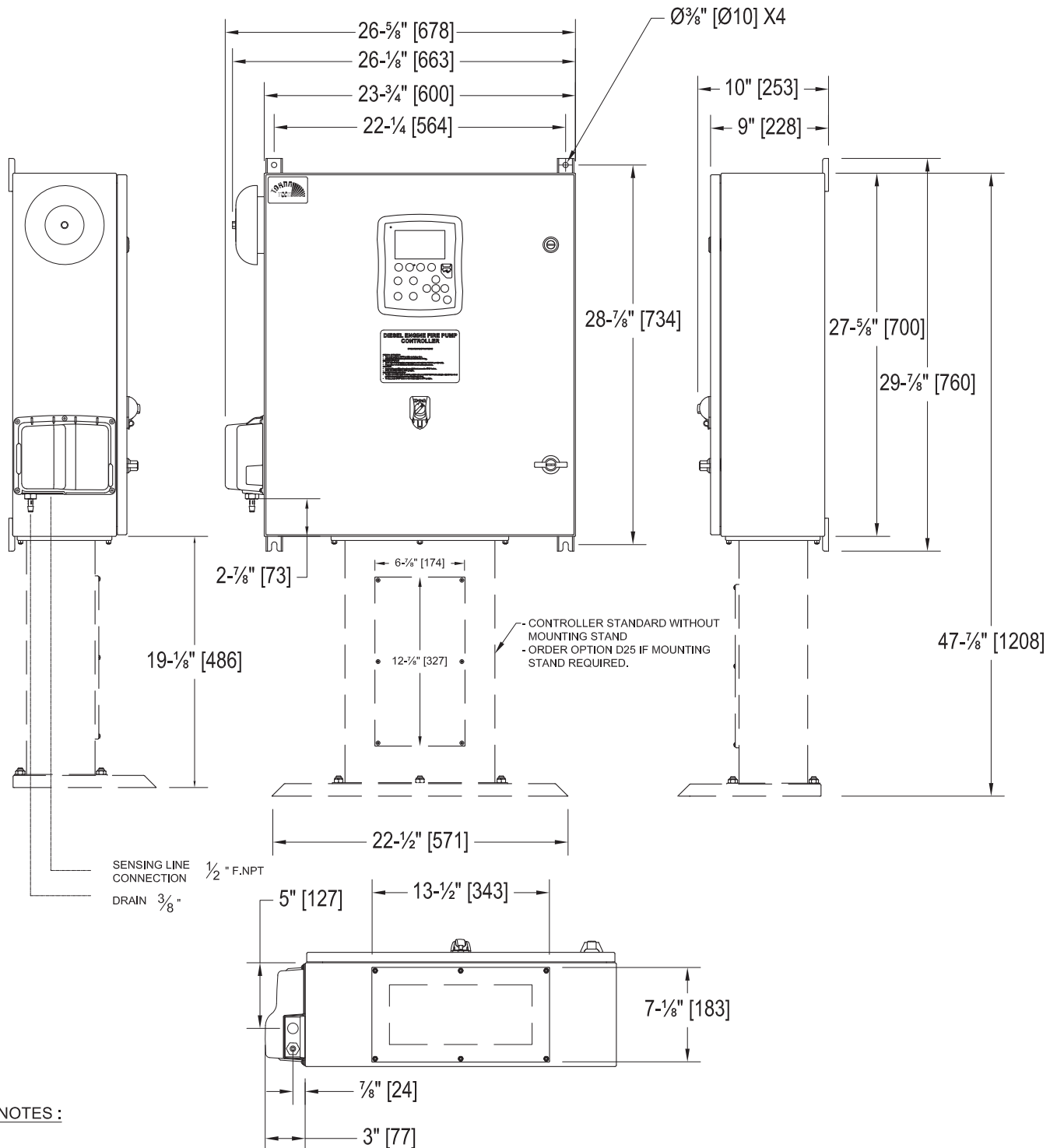
- 8 - USB port
- 9 - CRANK 1 button
- 10 - CRANK 2 button
- 11- Contextual navigation pad
- 12 - STOP button
- 13 - RUN TEST button
- 14 - HELP button

DIESEL ENGINE FIRE PUMP CONTROLLER

MODEL : GPD

Dimensions

BUILT TO THE LATEST EDITION OF THE NFPA 20 STANDARD

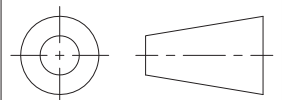


NOTES :

- NEMA 2 ASSEMBLY
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
- PAINT : TEXTURED RED RAL 3002.
- REMOVE GLAND PLATE TO DRILL CONDUIT ENTRANCE OPENING(S).
- ENTER CONDUIT THROUGH GLAND PLATE ONLY.
- USE WATERTIGHT CONDUIT CONNECTOR(S) ONLY.

Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
Contact manufacturer for "As Built" drawing.

PROJECTION



REV.	DATE	DESCRIPTION	APP.
0.	11/10/19	FIRST ISSUE	

DRAWING No.

DES.
VER.
APP.

GPD-DI500 /E

DIESEL ENGINE FIRE PUMP CONTROLLER

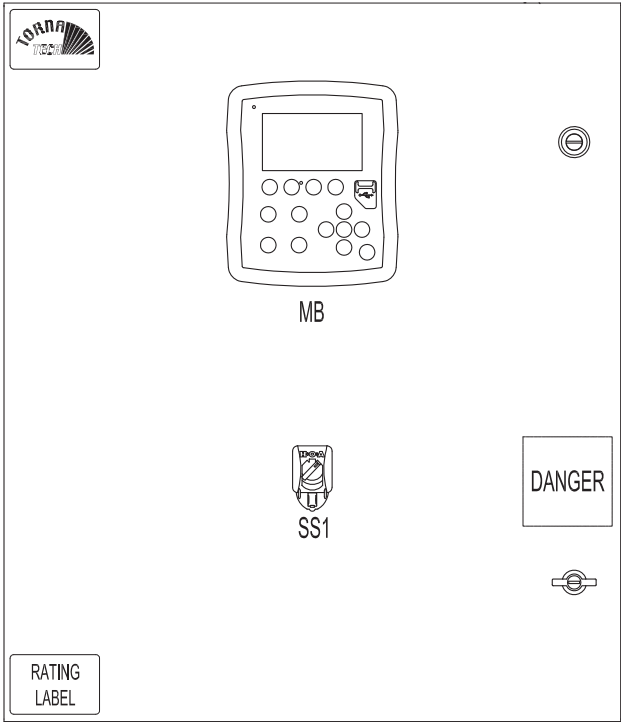
12Vdc or 24Vdc NEGATIVE GROUND

Layout

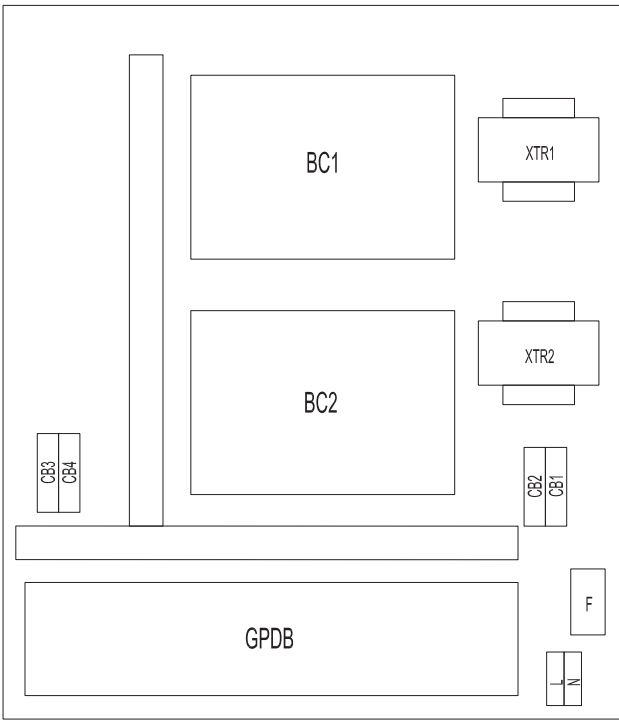
MODEL : GPD

BUILT TO THE LATEST EDITION OF THE NFPA 20 STANDARD

DESIGNATION	DESCRIPTION
F	FILTER
CB1-2	MAGNETIC BREAKER 1 POLE 10 AMP.
XTR1- XTR2	TRANSFORMER
BC1-BC2	BATTERY CHARGER #1 AND #2
CB3-4	MAGNETIC BREAKER 1 POLE 10 AMP.
GPDB	I/O DIESEL BOARD
SS1	LOCKABLE 3 POSITIONS SELECTOR SWITCH
MB	VIZITOUCH MAIN BOARD
L & N	INCOMING POWER TERMINALS



FRONT DOOR LAYOUT



INTERNAL LAYOUT



REV.	DATE	DESCRIPTION	DES.	VER.	APP.
0.	11/10/24	FIRST ISSUE			

Drawing No.
GPD-LY500/E

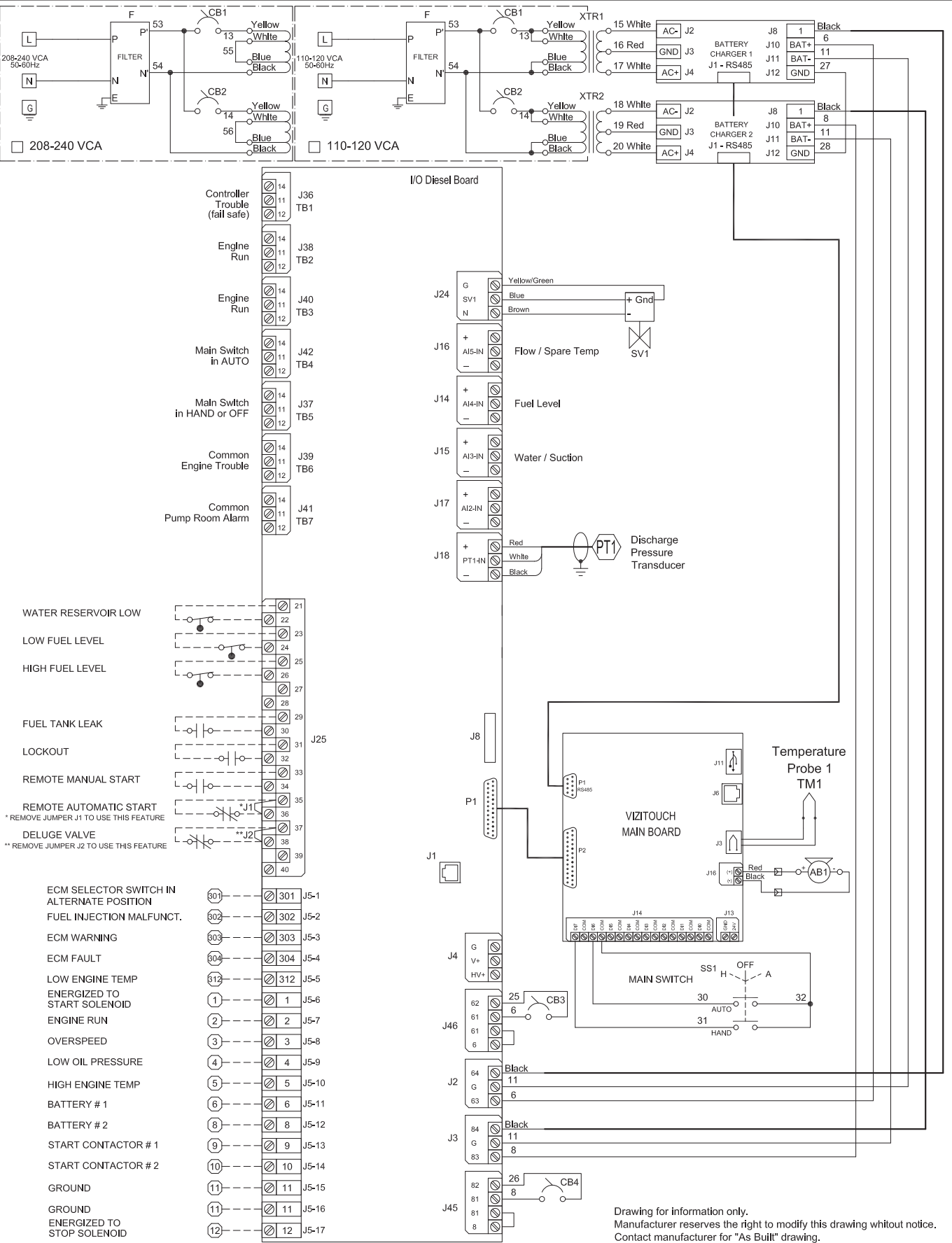
DIESEL ENGINE FIRE PUMP CONTROLLER

12Vdc or 24Vdc NEGATIVE GROUND

Wiring schematic

MODEL : GPD

BUILT TO THE LATEST EDITION OF THE NFPA 20 STANDARD



Drawing for information only.
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Contact manufacturer for "As Built" drawing.

DIESEL ENGINE FIRE PUMP CONTROLLER

12Vdc or 24Vdc NEGATIVE GROUND

MODEL: GPD

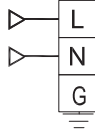
Terminal Diagram

BUILT TO THE LATEST EDITION OF THE NFPA 20 STANDARD

POWER SUPPLY

TERMINALS WIRE SIZE :
16 TO 6 AWG
2 Nm

110-120VCA
50-60Hz or 208-240VCA
50-60Hz

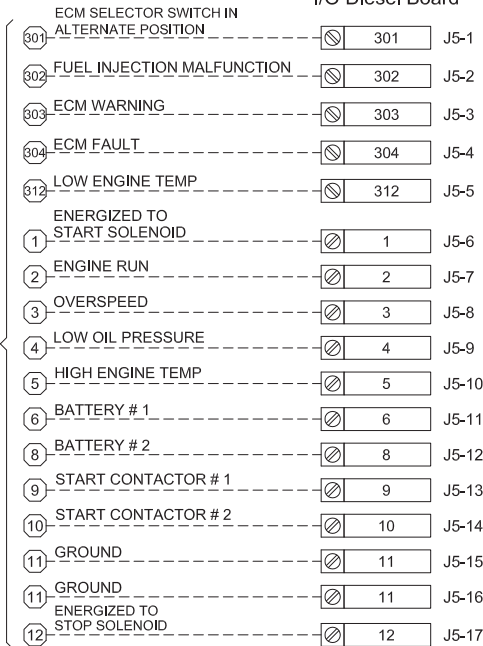


ENGINE CONNECTIONS

TERMINALS WIRE SIZE :
12 TO 22 AWG
1.8 Nm

I/O Diesel Board

ENGINE TERMINAL STRIP



CONTROLLER TERMINAL STRIP

- ALL WIRING BETWEEN THE CONTROLLER AND DIESEL ENGINE SHALL BE STRANDED (NFPA20)

- ALL CONTROL WIRING #14AWG STRANDED

- BATTERY WIRING - TERMINALS 6-8-11 AND 7 IF REQUIRED.

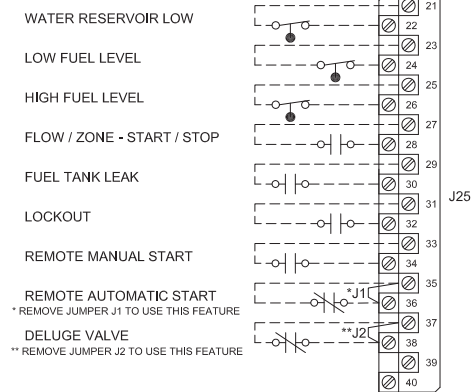
#12 AWG STRANDED FOR UP TO 25' - 7.6M DISTANCE
#12 AWG STRANDED x 2 IN PARALLEL FOR 26' TO 50'
7.9M TO 15.2M DISTANCE

OVER 50' - CONTACT FACTORY

FIELD CONNECTIONS FOR EXTERNAL DEVICES

TERMINALS WIRE SIZE :
12 TO 24 AWG
0.5 Nm

I/O Diesel Board

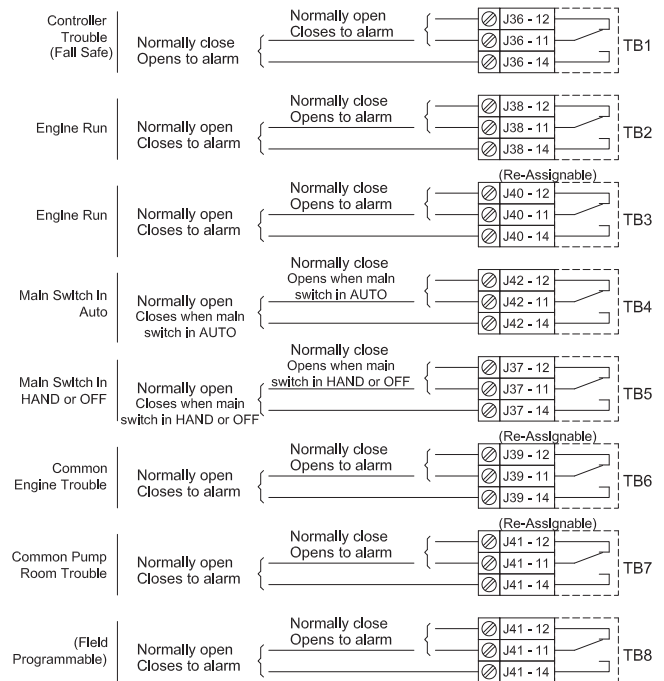


CONTROLLER TERMINAL STRIP

ALARM CONTACTS

TERMINALS WIRE SIZE :
12 TO 24 AWG
0.5 Nm

I/O Diesel Board



Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
Contact manufacturer for "As Built" drawing.



GPD-TD-VIZI

3.	13/11/11	Field Programmable	DES.
2.	12/05/30	Correct Signal Input	VER.
REV.	DATE	DESCRIPTION	APP.

Drawing No.

GPD-TD500/E