



PRESSURE LIMITING DRIVERS

FOR DISCHARGE AND SUCTION PRESSURE LIMITING

SERIES
JU4H C13H0
JU6H C18H0
JW6H C32H0

FM-UL-cUL APPROVED RATINGS BHP/kW

Certified Models	NSPS Emissions Tier	Engine Fuel	Discharge Control Limiting Pressure (psi)	Suction Control Limiting Pressure (psi)	Certified Speed (RPM) & Nameplate Power (BHP/kW)											
					1470		1760		1900		2100		2350		2400	
JU4H-UFADJG-D	T3 Certified	Electronic +	100 - 350 (A)				109	81			120	89	123	92	123	92
JU4H-UFADJG-S	T3 Certified	Electronic +		5 - 30 (B)			109	81			120	89	123	92	123	92
JU4H-UFADJG-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)			109	81			120	89	123	92	123	92
JU6H-UFADK0-D	T3 Certified	Electronic +	100 - 350 (A)				168	125			173	129	175	131	175	131
JU6H-UFADK0-S	T3 Certified	Electronic +		5 - 30 (B)			168	125			173	129	175	131	175	131
JU6H-UFADK0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)			168	125			173	129	175	131	175	131
JU6H-UFADP0-D	T3 Certified	Electronic +	100 - 350 (A)				220	164			209	156	211	157	211	157
JU6H-UFADP0-S	T3 Certified	Electronic +		5 - 30 (B)			220	164			209	156	211	157	211	157
JU6H-UFADP0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)			220	164			209	156	211	157	211	157
JU6H-UFADQ0-D	T3 Certified	Electronic +	100 - 350 (A)								224	167	226	169	226	169
JU6H-UFADQ0-S	T3 Certified	Electronic +		5 - 30 (B)							224	167	226	169	226	169
JU6H-UFADQ0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)							224	167	226	169	226	169
JU6H-UFADR0-D	T3 Certified	Electronic +	100 - 350 (A)								238	177.5	240	179	240	179
JU6H-UFADR0-S	T3 Certified	Electronic +		5 - 30 (B)							238	177.5	240	179	240	179
JU6H-UFADR0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)							238	177.5	240	179	240	179
JU6H-UFADT0-D	T3 Certified	Electronic +	100 - 350 (A)				229	172			274	204	275	205	275	205
JU6H-UFADT0-S	T3 Certified	Electronic +		5 - 30 (B)			229	172			274	204	275	205	275	205
JU6H-UFADT0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)			229	172			274	204	275	205	275	205
JW6H-UFADD0-D	T3 Certified	Electronic +	100 - 350 (A)				324	242			351	262				
JW6H-UFADD0-S	T3 Certified	Electronic +		5 - 30 (B)			324	242			351	262				
JW6H-UFADD0-DS	T3 Certified	Electronic +	100 - 350 (A)	5 - 30 (B)			324	242			351	262				
C13H0-UFAD22-D	T3 Certified	Electronic +	100 - 350 (A)			275	205	327	243	320	238	311	231			
C13H0-UFAD32-D	T3 Certified	Electronic +	100 - 350 (A)			296	220	350	260	342	255	335	249			
C13H0-UFAD52-D	T3 Certified	Electronic +	100 - 350 (A)			351	260	380	283	399	297	399	297			
C13H0-UFAD62-D	T3 Certified	Electronic +	100 - 350 (A)			384	286	422	314	425	316	425	316			
C13H0-UFAD72-D	T3 Certified	Electronic +	100 - 350 (A)			398	296	455	339	460	343	460	343			
C18H0-UFAD12-D	T3 Certified	Electronic +	100 - 350 (A)			450	335	460	343			488	364			
C18H0-FMAD12-S*	T3 Certified	Electronic +		8 - 30 (B)		450	335	460	343			488	364			
C18H0-FMAD12-DS*	T3 Certified	Electronic +	100 - 350 (A)	8 - 30 (B)		450	335	460	343			488	364			
C18H0-UFAD22-D	T3 Certified	Electronic +	100 - 350 (A)			475	354	510	380			525	392			
C18H0-FMAD22-S*	T3 Certified	Electronic +		8 - 30 (B)		475	354	510	380			525	392			
C18H0-FMAD22-DS*	T3 Certified	Electronic +	100 - 350 (A)	8 - 30 (B)		475	354	510	380			525	392			
C18H0-UFAD32-D	T3 Certified	Electronic +	100 - 350 (A)			491	366	542	404			556	414			
C18H0-FMAD32-S*	T3 Certified	Electronic +		8 - 30 (B)		491	366	542	404			556	414			
C18H0-FMAD32-DS*	T3 Certified	Electronic +	100 - 350 (A)	8 - 30 (B)		491	366	542	404			556	414			
C18H0-UFAD42-D	T3 Certified	Electronic +	100 - 350 (A)			570	425	614	458			618	460			
C18H0-FMAD42-S*	T3 Certified	Electronic +		8 - 30 (B)		570	425	614	458			618	460			
C18H0-FMAD42-DS*	T3 Certified	Electronic +	100 - 350 (A)	8 - 30 (B)		570	425	614	458			618	460			
C32H0-UFAC12-D	T2 Certified	Electronic +	100 - 190 (A)			750	559	850	633	850	633	850	633			
C32H0-UFAC22-D	T2 Certified	Electronic +	100 - 190 (A)			760	566	925	689	925	689	925	689			
C32H0-UFAC32-D	T2 Certified	Electronic +	100 - 190 (A)			825	615	1000	745	1000	745	990	745			
C32H0-UFAC42-D	T2 Certified	Electronic +	100 - 190 (A)			900	671	1090	812	1090	812	1090	812			
C32H0-UFAC52-D	T2 Certified	Electronic +	100 - 190 (A)			980	730	1140	850	1120	835	1120	835			
C32H0-UFAC62-D	T2 Certified	Electronic +	100 - 190 (A)			1079	804	1200	894	1200	894	1200	894			

Engine Models highlighted are suitable for installations in the US and US territories.
 ♦ All Models available for Export
 *Factory Mutual Approved (FM) Only

- A. Discharge Set Point Pressure can be Factory Set at any value within this range and is not field adjustable. Specify Maximum Control Pressure value at time of order.
- B. Suction Pressure Limiting Control Set Point can be Factory Set at any value within this range. Set Point is not field adjustable. Specify Control Pressure Set Point at time of order.





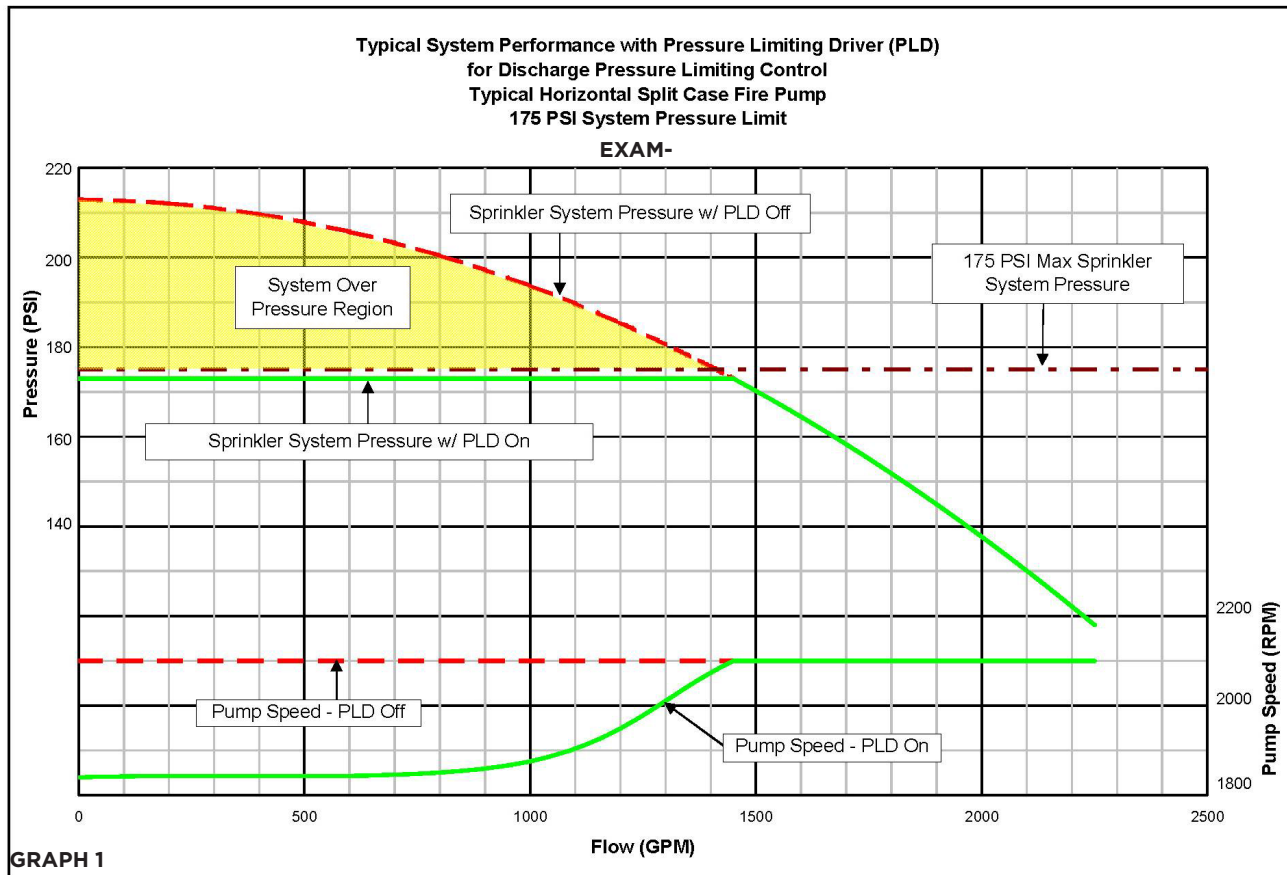
PRESSURE LIMITING DRIVERS FOR DISCHARGE AND SUCTION PRESSURE LIMITING

SERIES

JU4H C13HO

JU6H C18HO

JW6H C32HO



SUMMARY - FOR DISCHARGE PRESSURE CONTROL

- The Clarke PLD for Discharge Pressure Limiting Control is a UL/FM certified diesel engine fire pump driver which reduces pump speed to limit the maximum pump discharge pressure to prevent over-pressurization of the sprinkler system. See [Graph 1](#)
- Certain Clarke PLD equipped engines (-D and -DS Models) can be Factory Set at any specific pressure between 100 psi and 350 psi. The value must be factory set and is not field adjustable, refer to [Table 1](#).
- The Clarke PLD senses sprinkler system water pressure via a sensing line connected to the pump discharge pipe (between the pump flange and the discharge pressure, see [Graph 1](#).)
- A Clarke PLD requires a controller equipped with visible and audible alarm, to signal for system overpressure, actuated at 115% of set pressure.
- When using a Clarke PLD for Discharge Pressure Limiting Control, NFPA 20 requires the installation of a pressure relief valve.
- During commissioning, the PLD device is turned off in order to verify the performance of the pump to the factory test curve. Therefore fittings and pipe with the appropriate higher pressure rating need to be used from the pump discharge flange to and including the gate or butterfly discharge isolating valve.

IMPORTANT NOTE: For Discharge Pressure Control, please verify the Clarke PLD engine will work in your specific installation on the PLD-D calculator, at www.clarkefire.com.



PRESSURE LIMITING DRIVERS FOR DISCHARGE AND SUCTION PRESSURE LIMITING

SERIES

JU4H C13H0

JU6H C18H0

JW6H C32H0

DISCHARGE PRESSURE LIMITING CONTROL

- D Models: 100/350 psi Factory Set Point (not field adjustable); C32H Models are available with 100-190 psi Factory Set Point (not field adjustable).

FEATURES

- Controls System Over-Pressure while meeting NFPA 20.
- Controls System Over-Pressure without any device in the main supply line, where a failure condition of a device in the main supply line could interrupt the water supply.
- Reduces the quantity of the pressure reducing valves on high rise applications by limiting the amount of floors exceeding the maximum pressure of the sprinkler system.
- Enables the use of pumps with steeper rise to shut off pressure curves. Steeper pump curves typically require less horsepower which can reduce the total cost of fire protection.
- Eliminates the discharge of water from the pressure relief valve during the weekly pump test.
- No valve in-line with discharge.
- Allows smaller pipe diameter.

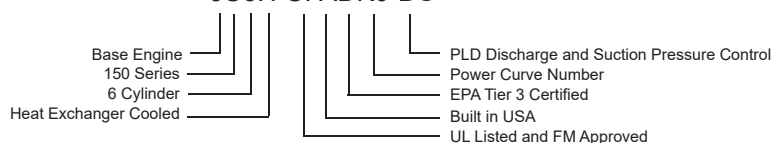
NFPA 20 (2022) LANGUAGE FOR USE AND ACCEPTABILITY OF VARIABLE SPEED PRESSURE LIMITING CONTROL

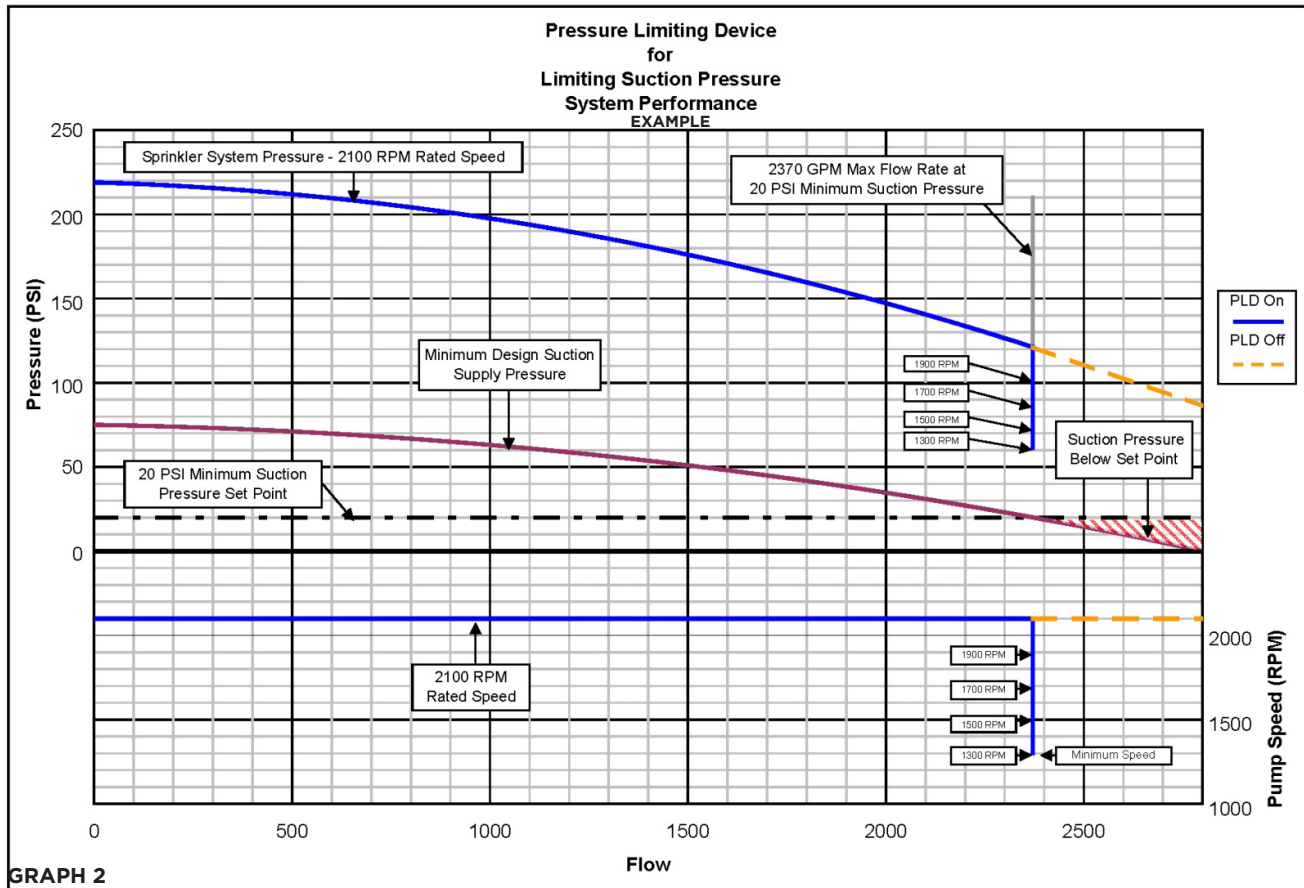
- 3.3.78.3** Variable Speed Pressure Limiting Control. A speed control system used to limit the total discharge pressure by reducing the pump driver speed from rated speed.
- 4.7.7.3.1** Variable speed pumps, as defined in this standard, shall be acceptable to limit system pressure.
- 4.7.7.2** Pressure relief valves and pressure regulating devices in the fire pump installation shall not be used as a means to meet the requirements of 4.7.7.1.
- 4.7.7.3.2** The set pressure plus the maximum pressure variance during variable speed operation and adjusted for elevation shall not exceed the pressure rating of any system component.
- 4.20.1.2** Where a diesel engine fire pump is installed and where a total of 121 percent of the net rated shutoff (churn) pressure plus the maximum static suction pressure, adjusted for elevation, exceeds the pressure for which the system components are rated, a pressure relief valve shall be installed.

Each engine has a minimum operating speed. In order to determine if the Clarke PLD engine can reduce enough pressure for an installation, each job needs to be reviewed using the "PLD Calculator", found on our website, www.clarkefire.com. A copy of the PLD Calculator results or the PLD Log Number must be submitted with any purchase order.

MODEL NOMENCLATURE (10 Digit Models)

JU6H-UFADK0-DS





SUMMARY - FOR SUCTION PRESSURE CONTROL

- The Clarke PLD-S for Suction Pressure Limiting Control is a UL/FM certified diesel engine fire pump driver which reduces engine speed to maintain a minimum positive suction pressure value to prevent under-pressurization of the sprinkler water supply. See [Graph 2](#).
- The Clarke PLD-S can be factory set at any specific minimum suction pressure between 5 psi and 30 psi, except the C18H0 engines which have a minimum suction pressure set point between 8 psi and 30 psi. Note this set point is not field adjustable.
- The Clarke PLD-S senses the fire pump suction pressure via a sensing line connected to the pump supply pipe (between the pump flange and the suction isolating valve), and reduces engine speed to manage suction pressure, see [Graph 2](#).

IMPORTANT NOTE: For Suction Pressure Control, please verify the Clarke PLD engine will work in your specific installation on the PLD-S calculator, at www.clarkefire.com.



PRESSURE LIMITING DRIVERS FOR DISCHARGE AND SUCTION PRESSURE LIMITING

SERIES
 JU4H C13H0
 JU6H C18H0
 JW6H C32H0

SUCTION PRESSURE CONTROL

- -S Models: 5-30 psi Factory Set Point (not field adjustable)
- -S (C18H0 Models): 8-30 psi Factory Set Point (not field adjustable) Note: C18H0-S Models are FM Approved Only.

FEATURES

- Controls minimum suction pressure while meeting NFPA 20
- Maintains minimum suction pressure by reducing engine speed.
- Typically will not shut off pump during operation.
- No valve in-line with supply water.
- If minimum suction pressure cannot be maintained, engine will signal controller.
- Designed to protect water supply when number of open sprinkler heads exceeds design criteria.
- Eliminates the need for a suction control valve (verify usage with authority having jurisdiction).

NFPA 20 (2022) LANGUAGE FOR USE AND ACCEPTABILITY OF VARIABLE SPEED PRESSURE LIMITING CONTROL

3.3.78.5 Variable Speed Suction Limiting Control. A speed control system used to maintain a minimum positive suction pressure at the pump inlet by reducing the pump driver speed while monitoring pressure in the suction piping through a sensing line.

11.2.4.3.1 Variable speed pressure limiting control or variable speed suction limiting control systems used on diesel engines for fire pump drive shall be listed for fire pump service and be capable of limiting the pump output total rated head (pressure) or suction pressure by reducing pump speed.

11.2.4.3.2 Variable speed control systems shall not replace the engine governor as defined in 11.2.4.1.

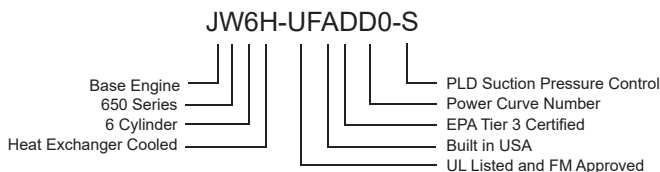
11.2.4.3.3 In the event of a failure of the variable speed control system, the engine shall operate at pump-rated speed with the governor defined in 11.2.4.1.

11.2.4.3.4.4 For suction limiting control, a sensing line shall be installed from a connection at the pump inlet flange to the engine.

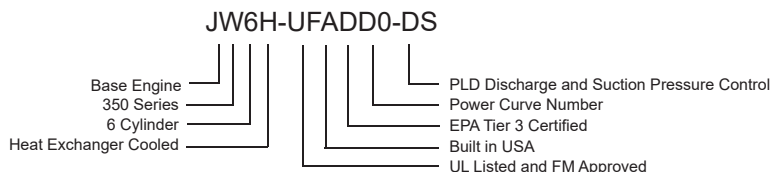
11.2.4.3.5 Within 20 seconds after a demand to start, pumps shall supply and maintain a stable discharge press (± 10 percent) throughout the entire range of operation.

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MODEL NOMENCLATURE (10 Digit Models)



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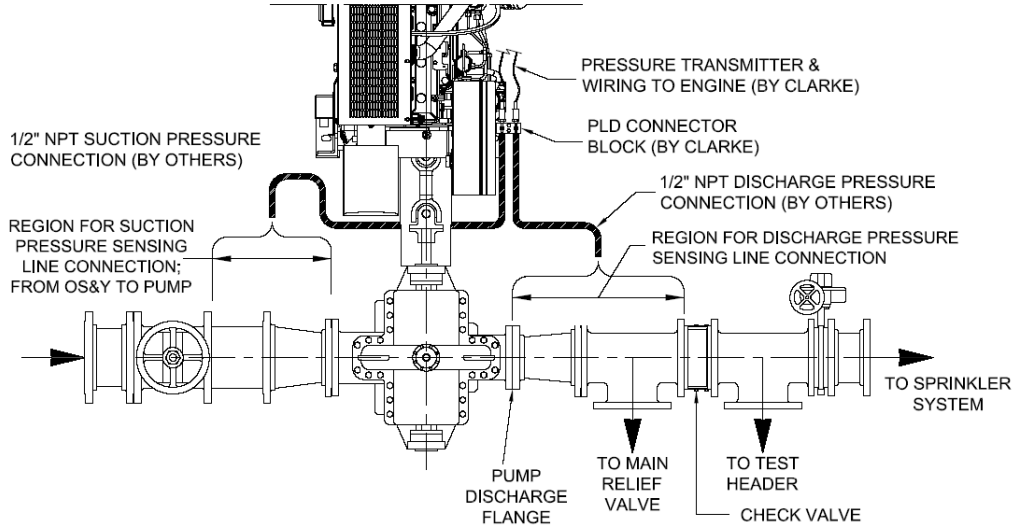
-D -S AND -DS ENGINE MODELS

SUCTION PRESSURE LIMITING CONTROL SENSING LINE CONNECTION

THE SINGLE SUCTION PRESSURE LIMITING CONTROL SENSING LINE SHALL BE CONNECTED IN THE IMMEDIATE REGION UPSTREAM OF THE PUMP INLET.

DISCHARGE PRESSURE LIMITING CONTROL SENSING LINE CONNECTION

THE SINGLE DISCHARGE PRESSURE CONTROL SENSING LINE SHALL BE CONNECTED IN THE REGION BETWEEN THE PUMP DISCHARGE FLANGE & THE CHECK VALVE.



Specifications and information contained in this brochure are subject to change without notice.

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C133760 RevT
04MAR25

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