



Specification sheet

Variable speed, pressure limiting control (VSPLC)

CFP5E, 7E, 9E, 15E, 23E, and 30E
fire pump drive engines

Description

Cummins optional variable speed, pressure limiting control (VSPLC) on its CFP5E, 7E, 9E, 15E, 23E, and 30E models for U.S. and international installations maintains a constant pump discharge pressure by varying the speed of the engine. The fire pump display panel (FPDP) monitors pump discharge pressure and commands the engine speed accordingly to maintain the pressure set point desired by the user. As the pump discharge pressure exceeds the set point, the engine will begin to reduce speed (which reduces system pressure) and try to maintain the set point. (In the event that the FPDP experiences a loss of the pressure signal, the engine will default to the rated speed.)

Features and benefits

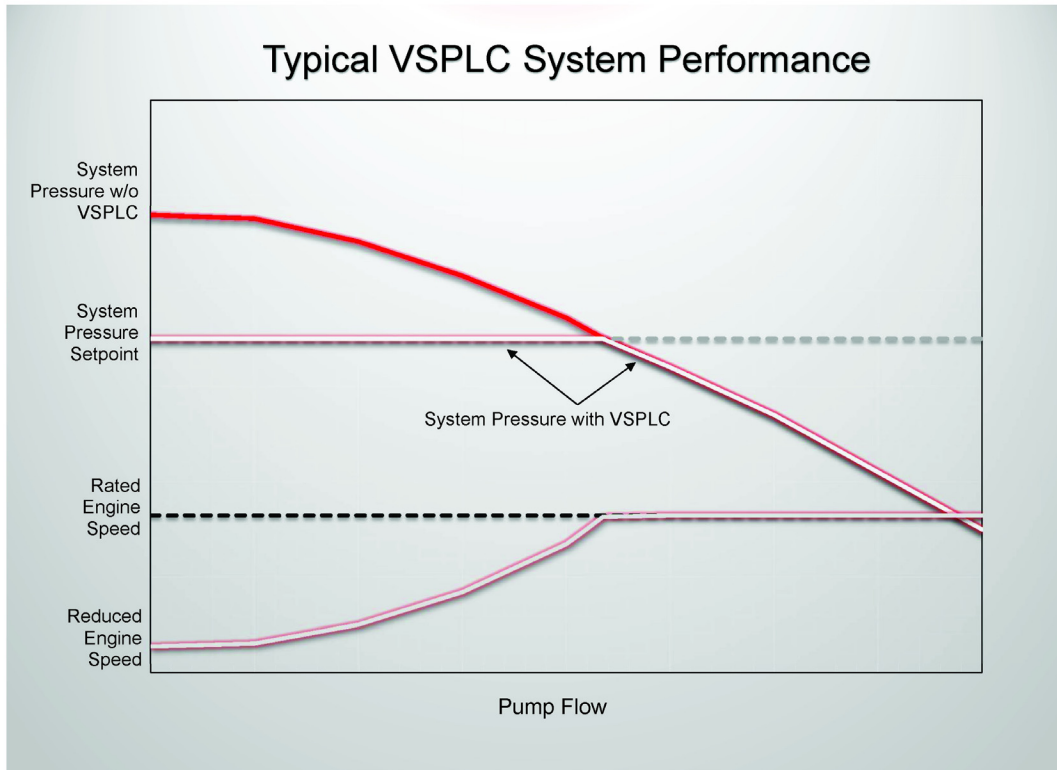
- Controls system overpressure, while meeting NFPA 20.
- Controls system overpressure without any device in the main supply line, where a failure condition of a device in the main supply line could interrupt the water supply.
- Prevents the sprinkler grid from exceeding the system pressure limits.
- Saves design time by eliminating multiple engine/pump combinations.
- Reduces the quantity of the pressure control valves on high-rise applications by limiting the maximum pressure applied to 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.
- Does not require a valve in-line with discharge.
- Allows for smaller pipe diameter.
- Eliminates pressure reducing valves in Early Suppression Fast Response (ESFR) systems.
- Field-adjustable by Cummins service technicians.

Model listings

All of the Cummins VSPLC listings - except for the CFP30E - are manufactured for use in the United States and internationally. The discharge set point pressure/maximum control pressure of 100/110, 170/175, or 240/250 psi is set by the factory and not adjustable. Please specify the set point pressure and maximum control pressure at the time of order.

Model	Ratings in HP (kW)								NSPS Emissions Tier	FM Approved
	1470 RPM	1760 RPM	1900 RPM	2100 RPM	2250 RPM	2300 RPM	2350 RPM	2600 RPM		
CFP5EVS-F10	84 (63)	95 (71)	98 (73)	101 (75)	- -	- -	105 (78)	104 (78)	T3	Y
CFP5EVS-F20	94 (70)	107 (80)	110 (82)	113 (84)	- -	- -	118 (88)	117 (87)	T3	Y
CFP5EVS-F30	104 (78)	118 (88)	121 (90)	125 (93)	- -	- -	130 (97)	129 (96)	T3	Y
CFP5EVS-F40	113 (84)	123 (92)	129 (96)	136 (101)	- -	- -	143 (107)	141 (105)	T3	Y
CFP5EVS-F50	113 (84)	129 (96)	135 (101)	146 (109)	- -	- -	150 (112)	148 (110)	T3	Y
CFP7EVS-F10	153 (114)	175 (130)	162 (121)	171 (128)	- -	- -	172 (128)	174 (130)	T3	Y
CFP7EVS-F20	166 (124)	190 (142)	176 (131)	185 (138)	- -	- -	187 (139)	189 (141)	T3	Y
CFP7EVS-F30	177 (132)	205 (153)	190 (142)	200 (149)	- -	- -	201 (150)	204 (152)	T3	Y
CFP7EVS-F40	192 (143)	220 (164)	204 (152)	215 (160)	- -	- -	216 (161)	219 (163)	T3	Y
CFP7EVS-F50	205 (153)	235 (175)	218 (163)	229 (171)	- -	- -	231 (172)	234 (174)	T3	Y
CFP7EVS-F60	218 (163)	247 (184)	232 (173)	244 (182)	- -	- -	245 (183)	249 (186)	T3	Y
CFP9EVS-F10	215 (160)	260 (194)	275 (205)	246 (184)	- -	224 (167)	- -	- -	T3	Y
CFP9EVS-F20	233 (174)	282 (210)	299 (223)	268 (200)	- -	244 (182)	- -	- -	T3	Y
CFP9EVS-F30	252 (188)	305 (228)	323 (241)	289 (216)	- -	264 (197)	- -	- -	T3	Y
CFP9EVS-F40	271 (202)	327 (244)	347 (259)	311 (232)	- -	284 (212)	- -	- -	T3	Y
CFP9EVS-F50	291 (217)	350 (261)	363 (271)	335 (250)	- -	304 (227)	- -	- -	T3	Y
CFP15EVS-F10	- -	460 (343)	488 (364)	488 (364)	380 (283)	- -	- -	- -	T3	Y
CFP15EVS-F20	- -	494 (368)	524 (391)	525 (391)	409 (305)	- -	- -	- -	T3	Y
CFP15EVS-F30	- -	536 (400)	575 (429)	564 (421)	418 (312)	- -	- -	- -	T3	Y
CFP23EVS-F15		698 (520)	722 (538)	751 (560)	- -	- -	- -	- -	T2	Y
CFP23EVS-F25		755 (563)	774 (577)	801 (597)	- -	- -	- -	- -	T2	Y
CFP23EVS-F35	700 (522)	770 (574)	798 (595)	840 (626)	- -	- -	- -	- -	T2	N
CFP30EVS-F10	- -	1087 (811)	1025 (765)	907 (677)	- -	- -	- -	- -	T0	Y
CFP30EVS-F20	- -	1137 (848)	1115 (832)	997 (744)	- -	- -	- -	- -	T0	Y
CFP30EVS-F30	- -	1187 (886)	1205 (899)	1087 (811)	- -	- -	- -	- -	T0	Y
CFP30EVS-F40	- -	1237 (923)	1295 (966)	1177 (878)	- -	- -	- -	- -	T0	Y

Typical system performance with VSPLC



The CFP5E, 7E, 9E, 23E, and 30E models can have a VSPLC set point anywhere between 100 and 400 psi. In installations where the discharge pressure is greater than 270 psi, a pressure reducing valve is required upstream of the cooling loop to limit the cooling water pressure to 270 psi. All associated VSPLC control parameters, including the pressure set point, are not field adjustable and a Cummins representative must make and approve any changes to VSPLC settings.

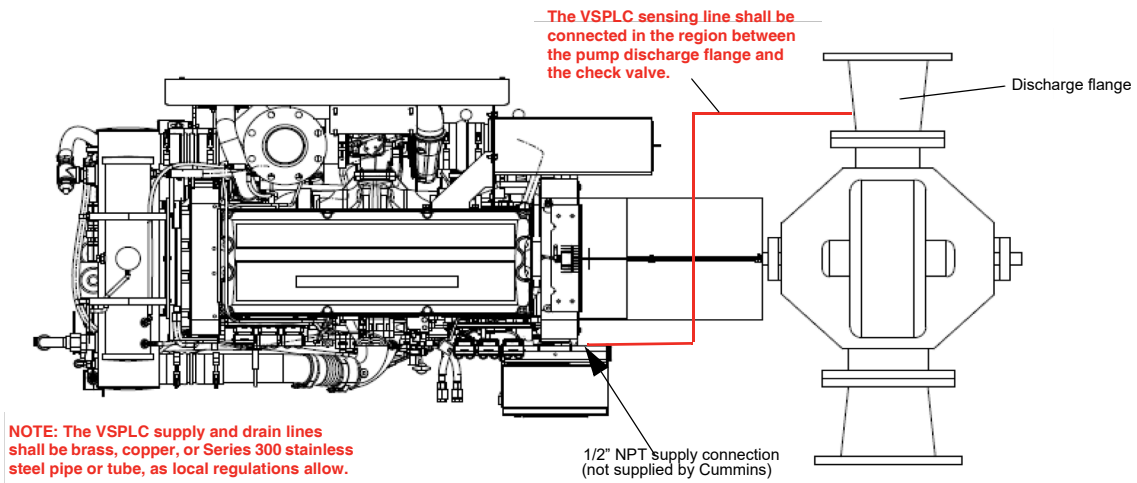
VSPLC senses the sprinkler water pressure using a pressure transducer connected to the FPDP.

VSPLC requires a fire pump controller equipped with visible and audible alarms to comply with NFPA 20.

NFPA 20 requires the installation of a pressure relief valve with VSPLC.

Initial installation of a Cummins Inc. VSPLC fire pump drive engine requires the connection of a 1/2 in. (12.7 mm) nominal size inside diameter pressure sensing line between the transducer (located under the FPDP) and the pump discharge flange and the discharge check valve.

Functional diagram



Please visit cummins.com for more information. Please consult with a Cummins Sales Representative at firepumpsales@cummins.com for a complete review of your VSPLC application.

Codes or standards compliance may not be available with all model configurations. Specifications subject to change without notice.

For more information, contact firepumpsales@cummins.com.



This product has been manufactured under the controls established by a Bureau Veritas Certification approved management system that conforms with ISO 9001:2015.



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