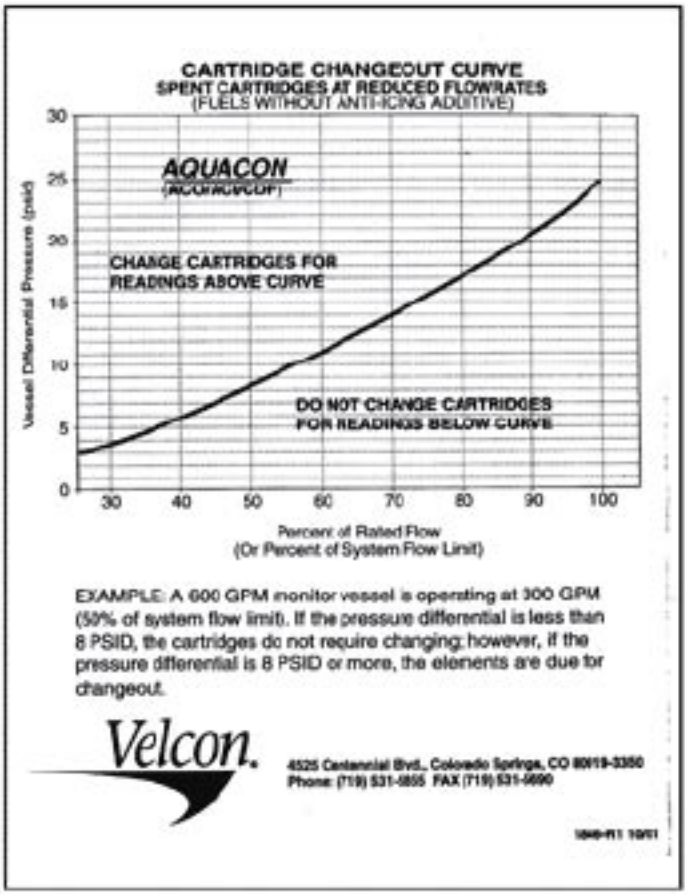
Operating Water Absorbing Cartridges at Reduced Flow Rates

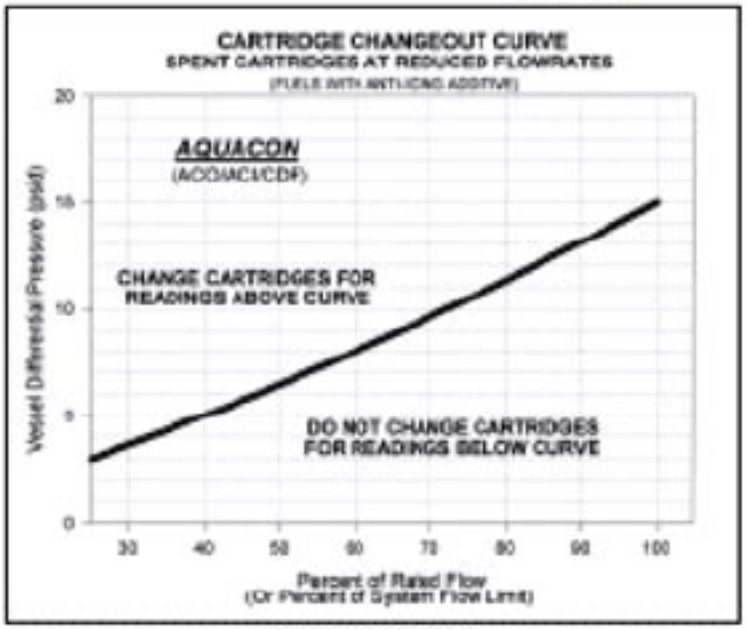
The importance of recording differential pressure and actual flow rate is often overlooked. If operating at, say, 7 psi differential at 40% flow rate and then flow rate is returned to 100% of rated flow, the differential pressure would be 25 psi. If the differential pressure is 25 psi at 40% rated flow, then at 100% flow the differential pressure would exceed 100 psi -- well above cartridge changeout.

Velcon has developed three tools to assist operators in calculating the corrected differential pressure. These are the Differential Pressure Conversion Calculator, Form #1871, and the Cartridge Changeout Curve Label, Form #1846. In fuel containing anti-icing additives, use Form #1896. Please contact Velcon for more information on this important topic.

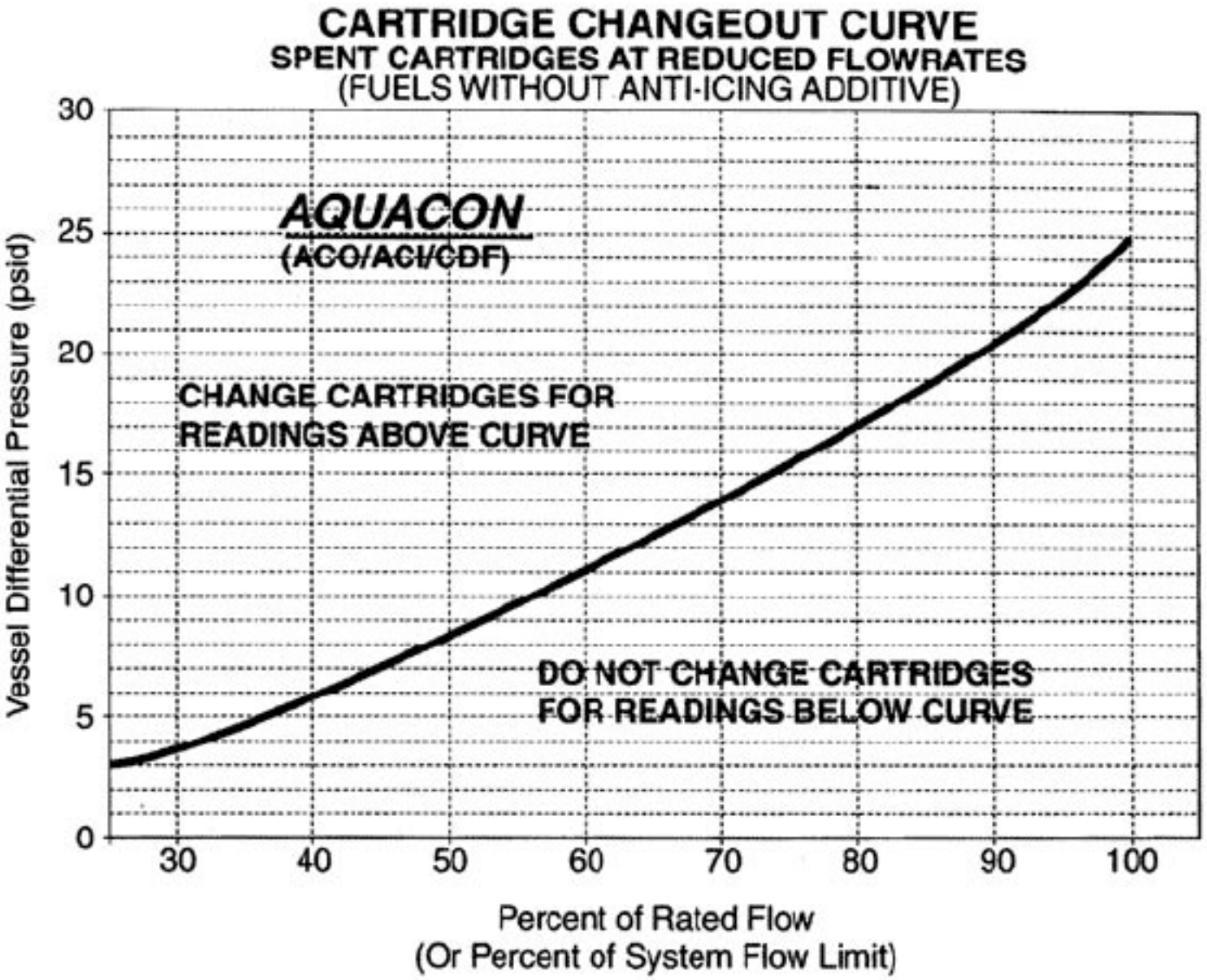


Form 1846

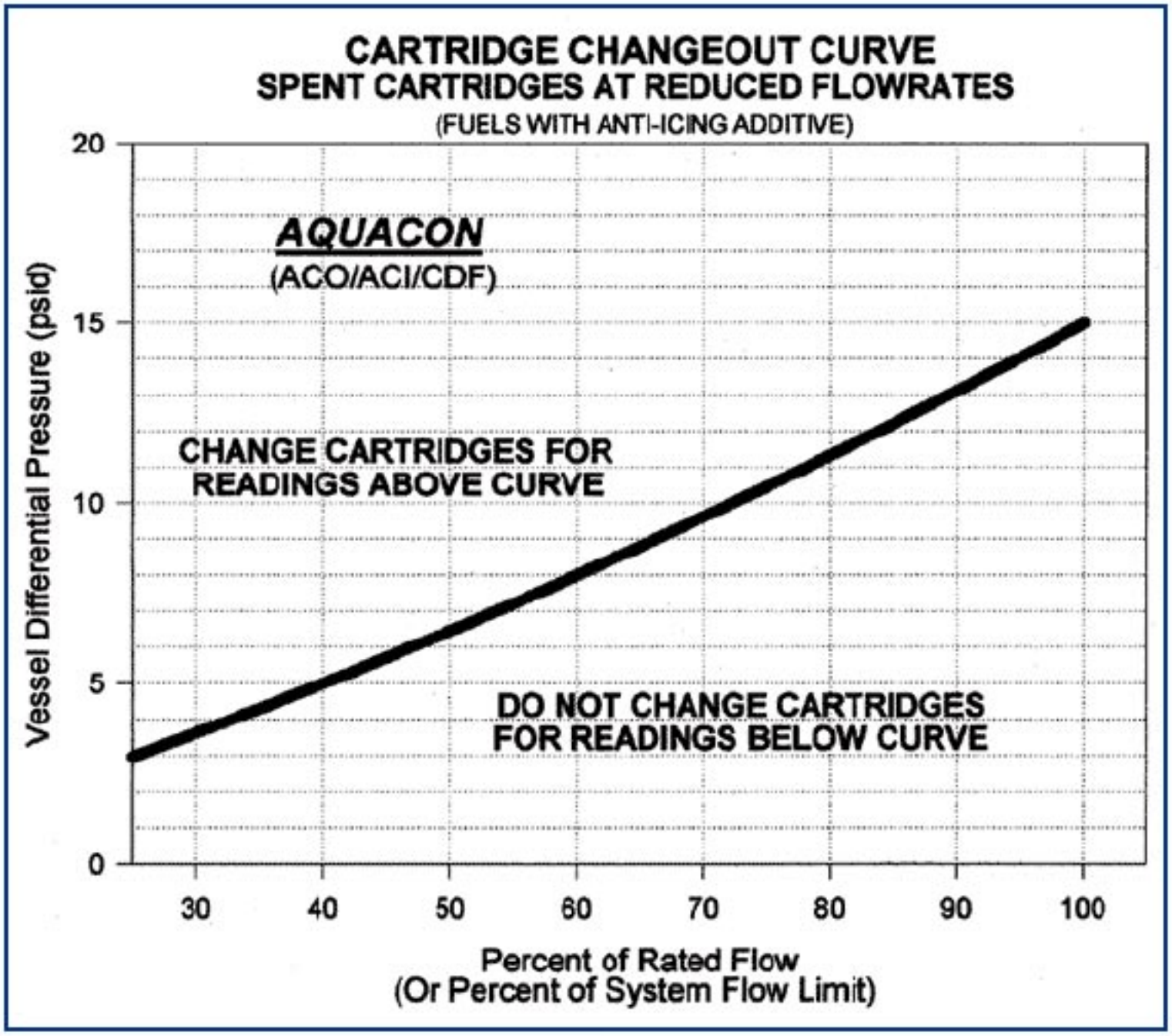
Form 1871 →



Form 1896



EXAMPLE: A 600 GPM monitor vessel is operating at 300 GPM (50% of system flow limit). If the pressure differential is less than 8 PSID, the cartridges do not require changing; however, if the pressure differential is 8 PSID or more, the elements are due for changeout.


CARTRIDGE CHANGEOUT CURVE
SPENT CARTRIDGES AT REDUCED FLOWRATES
(FUELS WITH ANTI-ICING ADDITIVE)
AQUACON
(ACO/ACI/CDF)
CHANGE CARTRIDGES FOR
READINGS ABOVE CURVE
DO NOT CHANGE CARTRIDGES
FOR READINGS BELOW CURVE
Vessel Differential Pressure (psid)
20
15
10
5
0
30
40
50
60
70
80
90
100
Percent of Rated Flow
(Or Percent of System Flow Limit)