



Non-Sparking Elements

Hy-Pro G8 element and media technology optimized to prevent spark discharge and minimize potential energy in bearing lubrication and hydraulic control systems.

Prevent oil degradation caused by thermal events associated with element spark discharge.

Prevent anti-oxidant additive depletion and extend useful fluid life.

Hy-Pro NSD elements eliminate sparking without sacrificing fluid cleanliness.

Filter Element Spark Discharge

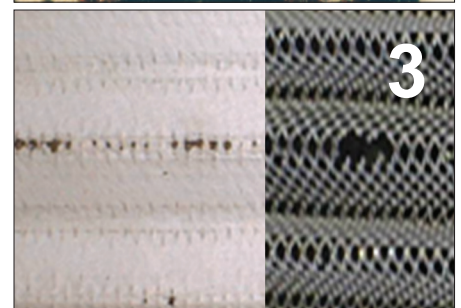
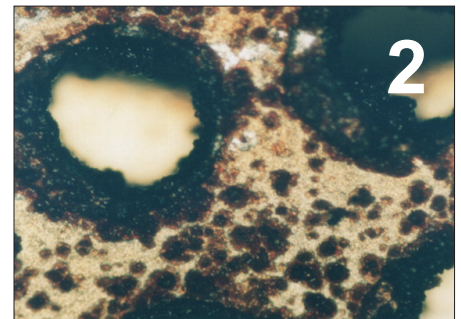
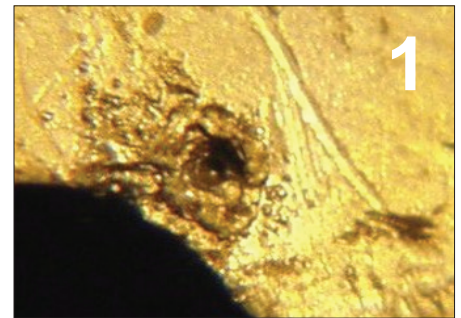
As fluid passes through the typical tortuous filter media fiber matrix turbulence increases resulting in thermal events as the fluid layers shear creating static accumulation on elements that can lead to high voltage spark discharge from media to support tube. Photos 1 and 2 show evidence of sparking on the filter element support tube (pitting and burning), and photo 3 shows filter media and support mesh from a lube filter element with spark discharge burn damage.

The change from Group I to Group II has enhanced the effect of spark discharge. Group I base stock oils could conduct low levels of static charge out of the system to ground. The changes in resistivity with Group II base stocks mean that static charges stay in the system and can yield higher levels of static charge on filter elements. If the element cannot minimize and dissipate the charge, static on the element will build until it eventually arcs to a nearby surface.

Hy-Pro NSD Elements, Cleaner Fluid Without Sparking

For some the answer to preventing element sparking and high potential energy is to use coarse strainer type filters (Stat-Free) in the main bearing lube filter duplex. Although this may prevent sparking it renders the main bearing lube filter assembly useless in preventing catastrophic bearing failure due to contamination. Independent lab analysis proves that even Hy-Pro high efficiency 3 micron absolute (b5[c] > 1000) NSD elements are resistant to spark discharge.

The degree to which element spark discharge contributes to overall varnish problems is variable. Varnish can result from any combination of oxidation, anti-oxidant additive depletion, increased fluid stress from high turbine output, micro-dieseling, new oil formulations and spark discharge. With Hy-Pro NSD elements, any reduction in thermal sparking events and tribo-electric effect will have a positive impact by decelerating anti-oxidant additive depletion and extending useful fluid life. Field test data has shown that Hy-Pro NSD elements may even reduce or stabilize varnish potential values by preventing further degradation from sparking and collecting some insoluble oxidation by-products.



Hy-Pro Non-Sparking Filter Element Upgrades for Turbine Lube Oil & Hydraulic Control Systems

Original Number	Hy-Pro Part Number	Original Number	Hy-Pro Part Number	Original Number	Hy-Pro Part Number
HC2196F*S6H50	HP06RNL7-12EB-NSD	HC2618F*S36Z	HP102L36-12EV-NSD	HC9601F*P21ZYGE	HP61L21-2EV-NSD
HC2206F*S3Z	HP06DNL4-12EV-NSD	HC2618F*T18H	HP102L18-25EB-NSD	HC9601F*P4H	HP61L4-2EB-NSD
HC2206F*T3H	HP06DNL4-25EB-NSD	HC2618F*T18Z	HP102L18-25EV-NSD	HC9601F*P4Z	HP61L4-2EV-NSD
HC2207F*S3Z	HP06DHL4-12EV-NSD	HC2618F*T36H	HP102L36-25EB-NSD	HC9601F*P8H	HP61L8-2EB-NSD
HC2207F*T3Z	HP06DHL4-25EV-NSD	HC8400F*P8Z	P84L8-3EV-NSD	HC9601F*P8Z	HP61L8-2EV-NSD
0280D003BH*HC-V	HP16DHL14-3EV-NSD	HC8900F*N26HY550	HPQ98320L26-6EB-NSD	HC9601F*S8Z	HP61L8-15EV-NSD
**03384509 Stat-Free	HP102L18-12EB-NSD	HC8900F*N26ZY550	HPQ98320L26-6EV-NSD	HC9604F*N13Z	HP964L13-6EV-NSD
200EB10	HPQ20082S-12EV-NSD	HC8900F*N39HY550	HPQ98320L39-6EB-NSD	HC9650F*P16H	HP50L16-3EB-NSD
234A6578P0002	HP41L13-3EV-NSD	HC8900F*N39ZY550	HPQ98320L39-6EV-NSD	HC9650F*P16Z	HP50L16-3EV-NSD
234A6579P0002	HP41L13-3EV-NSD	HC8900F*S26HY550	HPQ98320L26-12EB-NSD	HC9650F*P16ZYGE	HP50L16-3EV-NSD
254A7220P0008	HP41L13-3EV-NSD	HC8900F*S26ZY550	HPQ98320L26-12EV-NSD	HC9650F*P8H	HP50L8-3EB-NSD
254A7229P0005	HP41L13-3EV-NSD	HC8900F*S39HY550	HPQ98320L39-12EB-NSD	HC9650F*P8Z	HP50L8-3EV-NSD
258A4860P002	HP61L11-2EV-NSD	HC8900F*S39ZY550	HPQ98320L39-12EV-NSD	HC9650F*P8ZYGE	HP50L8-3EV-NSD
258A4860P004	HP61L21-2EV-NSD	HC8900F*T26HYR11	HPQ20228-25EB-NSD	HC9651F*P16Z	HP51L16-2EV-NSD
315A2600P003	HP21L4-15EV-NSD	HC8904F*N13Z	HP894L13-6EV-NSD	HC9651F*P16ZYGE	HP51L16-2EV-NSD
361A6256P010	HPK3L18-3EV-NSD	HC9020F*S4Z	HP20L4-12EV-NSD	HC9651F*P8Z	HP51L8-2EV-NSD
363A4378P003	HPQ20082S-17EV-NSD	HC9021F*P4H	HP21L4-2EB-NSD	HC9651F*P8ZYGE	HP51L8-2EV-NSD
363A4378P004	HPQ20082S-12EV-NSD	HC9021F*P4Z	HP21L4-2EV-NSD	HC9651F*T8H	HP51L8-15EB-NSD
363A7485P0001	HPQ20082S-12EV-NSD	HC9021F*P4ZYGE	HP21L4-2EV-NSD	HC9651F*T8Z	HP51L8-15EV-NSD
932683Q, 932683	HPK3L18-3EV-NSD	HC9021F*P8H	HP21L8-2EB-NSD	HC9651F*T8ZYGE	HP51L8-15EV-NSD
B984C302P012	HP21L4-15EV-NSD	HC9021F*P8Z	HP21L8-2EV-NSD	HC9701F*P18H	HPK3L18-3EB-NSD
FQ19165	HPQ20082S-12EV-NSD	HC9021F*P8ZYGE	HP21L8-2EV-NSD	HC9701F*P18Z	HPK3L18-3EV-NSD
HC0101F*P18Z	HP101L18-3EV-NSD	HC9021F*T4H	HP21L4-15EB-NSD	HC9701F*P18ZYGE	HPK3L18-3EV-NSD
HC0101F*P18ZYGE	HP101L18-3EV-NSD	HC9021F*T4Z	HP21L4-15EV-NSD	HC9701F*P18ZYR82	HPK3L18-3EV-NSD
HC0101F*S18Z	HP101L18-12EV-NSD	HC9021F*T4ZYGE	HP21L4-15EV-NSD	HC9711F*P18H	HPK3L18-3EB-NSD
HC0101F*S18ZYGE	HP101L18-12EV-NSD	HC9021F*T8H	HP21L8-15E-NSD	HC9711F*P18Z	HPK3L18-3EV-NSD
HC2006F*N28Z	HPQ20082S-6EV-NSD	HC9021F*T8Z	HP21L8-15EV-NSD	HC9711F*P9Z	HPK3L9-3MV
HC2006F*S28Z	HPQ20082S-12EV-NSD	HC9021F*T8ZYGE	HP21L8-15EV-NSD	HC9801F*P4Z	HP81L4-2EV-NSD
HC2006F*T28Z	HPQ20082S-25EV-NSD	HC9100F*S4Z	HP900L4-12EV-NSD	HC9801F*T4Z	HP81L4-15EV-NSD
HC2216F*S6H	HP16DNL8-12EB-NSD	HC9600F*N13Z	HP60L13-6EV-NSD	HP311-12-GE	HP61L11-2EV-NSD
HC2216F*S6Z	HP16DNL8-12EV-NSD	HC9600F*N8Z	HP60L8-6EV-NSD	HP9650F*P16ZYGE	HP50L16-3EV-NSD
HC2286F*S15H50	HP66RNL18-12EB-NSD	HC9600F*P16H	HP60L16-3EB-NSD	PH426-** Hilco	HPQ20228-12EV-NSD
HC2295F*P14H	HP95RNL14-3EV-NSD	HC9600F*P4Z	HP60L4-3EV-NSD	PH528-** Hilco	HPQ20082S-12EV-NSD
HC2618F*N18H	HP102L18-6EB-NSD	HC9600F*P8H	HP60L8-3EB-NSD	**PH718-05CNVGE	HP102L18-12EV-NSD
HC2618F*N36H	HP102L36-6EB-NSD	HC9601F*P11H	HP61L11-2EB-NSD	**PH739-05-CG	HPQ220275L40-25EV-NSD
HC2618F*P18H	HP102L18-3EB-NSD	HC9601F*P11Z	HP61L11-2EV-NSD	PH739-11-CG	HPQ220275L40-12EV-NSD
HC2618F*P18Z	HP102L18-3EV-NSD	HC9601F*P11ZYGE	HP61L11-2EV-NSD	**PL718-05-GE	HP102L18-12EB-NSD
HC2618F*P18ZYGE	HP102L18-3EV-NSD	HC9601F*P16H	HP61L16-2EB-NSD	PMG528-10	HPQ20082S-17EV-NSD
HC2618F*S18H	HP102L18-12EB-NSD	HC9601F*P16Z	HP61L16-2EV-NSD	PMG528-10B200	HPQ20082S-12EV-NSD
HC2618F*S18Z	HP102L18-12EV-NSD	HC9601F*P16ZYGE	HP61L16-2EV-NSD	PMG528-10B200-GE	HPQ20082S-12EV-NSD
HC2618F*S18ZYGE	HP102L18-12EV-NSD	HC9601F*P21H	HP61L21-2EB-NSD	PMG528-10-GE	HPQ20082S-17EV-NSD
HC2618F*S36H	HP102L36-12EB-NSD	HC9601F*P21Z	HP61L21-2EV-NSD		

* Original element media code may be A, K, M, D, 3, 4. This does not create a change to the Hy-Pro non-spark NSD element part number.

**Original element media has 30~40 micron removal efficiency. Hy-Pro element is glass media upgrade with b12[c] > 1000 efficiency. Hy-Pro recommends glass media upgrade for such coarse strainer type medias to prevent catastrophic bearing failure and maintain low ISO codes.

If the part number that you require is not listed above please contact your Hy-Pro distributor or the factory for the appropriate part number and pricing.



FILTRATION

www.hyprofiltration.com
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