

# Velcon®

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## INSTALLATION Instructions

### SO SEPARATOR CARTRIDGES

1. Close the inlet and outlet valves to the filter/separator vessel.
2. Open the air eliminator or manual vent valve and drain the vessel.
3. Open the vessel and remove the old separator cartridges.
4. Cut the new cartridge's protective poly-bag at both ends.
5. Holding the new cartridge with the poly-bag still protecting the cartridge, place the cartridge over the tie-rod. (The poly-bag protects the cartridges from being disarmed by handling.) **DO NOT TOUCH THE SEPARATOR MEDIA.** [Separators should be installed after the coalescers are installed, to prevent damage to the separators.]
6. Remove the poly-bag slowly from the cartridge after it is in place.
7. Place the end cap over the tie-rod. (Not needed on SO-3xxV, SO-4xxV, SO-6xxVA, SO-6xxV and SO-6xxPV separators which have blind end cap already affixed.)
- \*8. Place the new flat gasket over the tie rod. Discard the old gasket.
- \*9. Place the flat washer, lock washer, and nut over the tie rod and tighten to 3-5 foot-pounds of torque. (Lockwasher will be flat.)
10. Make sure separators are evenly spaced and not touching each other or the vessel wall by following these steps:
11. Make sure that no poly-bags remain in the housing, then replace the spider as follows:
  - Install the flat washer over each cartridge end and install the spider over the ends of the cartridges.
  - Affix the spider to the threaded clips on the vessel walls using the nut and lockwasher.
  - Adjust the spider clip nuts, so the spider lies flat on the ends of the cartridges
  - Install the washer and nut over the ends of the cartridges, to affix the spider to the cartridge ends. Snug the nuts. **DO NOT TIGHTEN YET.**
- Adjust the ends of each cartridge to create even separation between the cartridges and between the cartridge and vessel wall. Cartridges should **NOT** be touching each other, nor touching the vessel wall. The ends of the cartridges can be shifted within the spider plate holes as follows:

Cartridge Length	Shift Within the Spider Hole
Greater than 33"	Full movement within the spider hole
30"	Less than 5/8" (16 mm)
28"	Less than 9/16" (14 mm)
24"	Less than 1/2" (12 mm)
22"	Less than 1/2" (12 mm)
20"	Less than 3/8" (10 mm)
18"	Less than 3/8" (10 mm)
16"	Less than 1/4" (8 mm)
14"	Less than 1/4" (6 mm)
11"	Less than 1/4" (5 mm)
9"	Less than 3/16" (5 mm)

\*As a recommended alternative to the flat gasket, washers, and nut when using 3/8" diameter tie rods, Velcon offers part number K20A separator seal nut. This has an O-ring in its base to provide the seal. Tighten to 5 ft-lbs of torque.

**PLEASE NOTE: The normal shelf life for pleated paper separators (for example, SO-xxxPLF3 and SO-6xxPLBZ) is ONE YEAR from the date of manufacture.**

However, pleated paper separators can be used beyond the one year shelf life and will work properly providing they have been kept clean & dry, & stored in their original poly bags & boxes. Before installing pleated paper separators, closely examine the separator media for any damage that may have occurred during storage or handling. Contact Velcon if you have any questions.