Forged Body Materials for Biopharm Applications

HC4 Diaphragm Valves

HC4/010/01/11.02

Standard AFP 2 Way Forgings:
0.25”-3” (DN8-DN80)
ZDT Forgings:
0.50”-2” (DN15-DN50)
Tank Bottom Forgings:
0.50”-3” (DN15-DN80)

Specification: EN 10222-5 1.4435 (316L)

	%
Carbon	max 0.03
Silicon	max 1.00
Manganese	max 2.00
Phosphorus	max 0.045
Sulfur	0.005-0.017
Chromium	17.0/19.00
Nickel	12.5/15.00
Molybdenum	2.5/3.0
Nitrogen	max 0.11

Saunders’ standard body material for all forged bodies is stainless steel 316L/DIN 1.4435. All BS OD 16SWG butt weld forgings meet ASME* BPE** requirement for controlled sulfur level (see above).

All other butt weld standards (ISO1127, DIN 11850, SMS 3008, JIS) are available on request to meet BPE controlled sulfur level (0.005-0.017) but are supplied as standard with sulfur level 0.025 max. This provides conformity with most major international specification requirements and ensures compatibility with Biopharm pipework.

Full material traceability to EN 10204 (DIN 50049 3.1b) is available for all body combinations to complement the availability of data on physical properties for all elastomer/polymer diaphragms within the range.

Consequently, all wetted areas in contact with the process are fully traceable and adhere to cGMP guidelines.

Body Material options available on request:

- Hastelloy ™ (Cabot Corporation)
- Titanium
- AL6 XN
- DIN 1.4435 BN 2

In certain application areas in Biopharmaceutical installations there may be a requirement for special alloys/materials – for instance the presence of high chloride concentrations may necessitate the use of special material due to the effects of “pitting corrosion”.

Saunders can offer any of the above materials on request to ensure complete application coverage.

Please contact Saunders for further details on any of these options.

* - ASME - American Society of Mechanical Engineers
** - Bio Processing Equipment standard table DT-3

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