

Electro-Hydraulic Control System for 1/4-Turn and Linear Actuators



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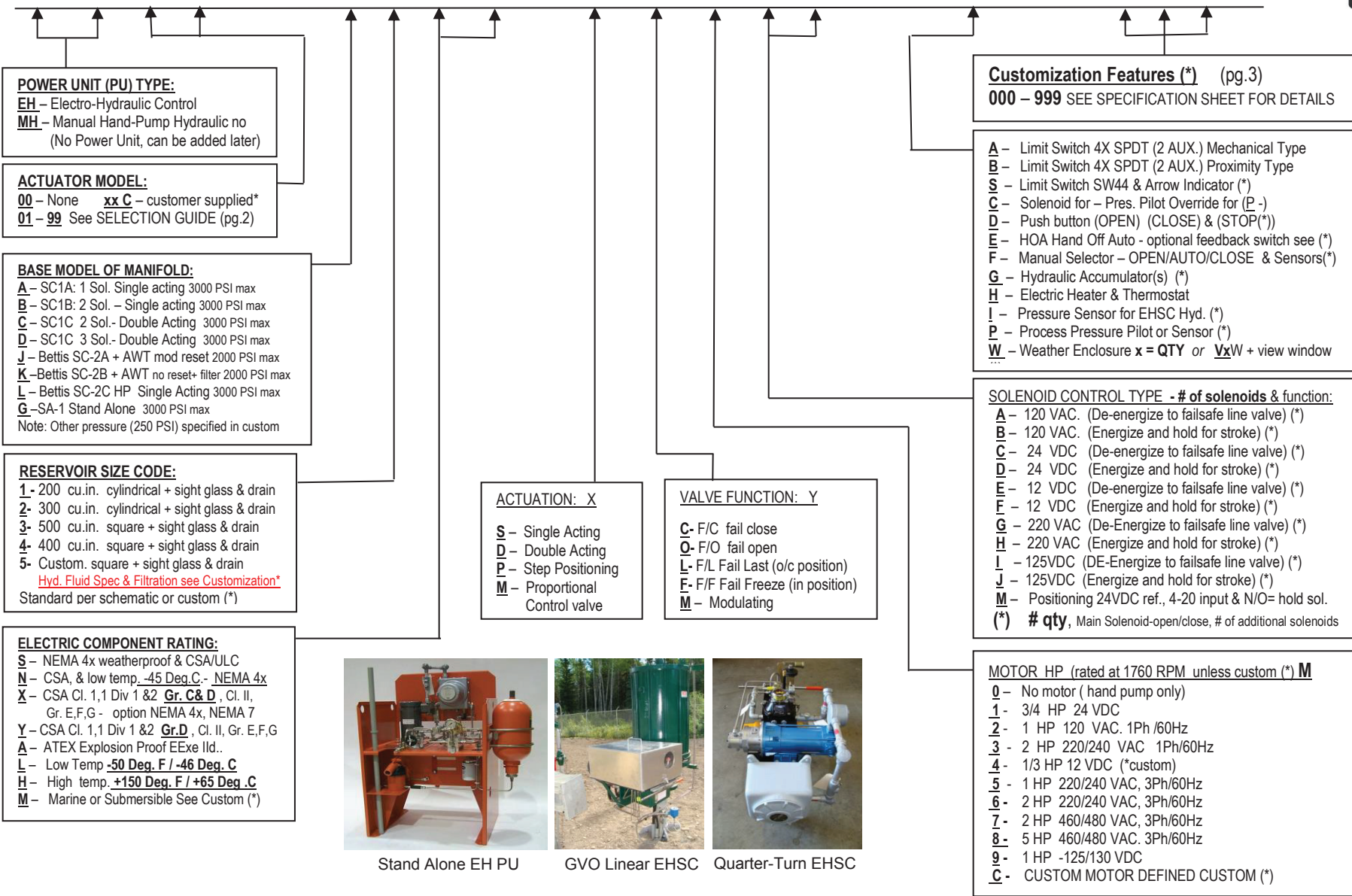
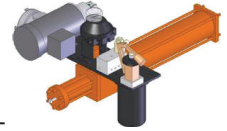
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MATRIX: REV. 7.0.4. | STAND ALONE & SELF CONTAINED (SC) ELECTRIC-HYDRAULIC SYSTEMS

EH00* - Axx... - XYM xx#x-x... - XXX



POWER UNIT (PU) TYPE:
EH – Electro-Hydraulic Control
MH – Manual Hand-Pump Hydraulic no
 (No Power Unit, can be added later)

ACTUATOR MODEL:
00 – None **xx C** – customer supplied*
01 – **99** See SELECTION GUIDE (pg.2)

BASE MODEL OF MANIFOLD:
A – SC1A: 1 Sol. Single acting 3000 PSI max
B – SC1B: 2 Sol. – Single acting 3000 PSI max
C – SC1C 2 Sol.- Double Acting 3000 PSI max
D – SC1C 3 Sol.- Double Acting 3000 PSI max
J – Bettis SC-2A + AWT mod reset 2000 PSI max
K – Bettis SC-2B + AWT no reset+ filter 2000 PSI max
L – Bettis SC-2C HP Single Acting 3000 PSI max
G – SA-1 Stand Alone 3000 PSI max
 Note: Other pressure (250 PSI) specified in custom

RESERVOIR SIZE CODE:
1 - 200 cu.in. cylindrical + sight glass & drain
2 - 300 cu.in. cylindrical + sight glass & drain
3 - 500 cu.in. square + sight glass & drain
4 - 400 cu.in. square + sight glass & drain
5 - Custom. square + sight glass & drain
[Hyd. Fluid Spec & Filtration see Customization*](#)
 Standard per schematic or custom (*)

ELECTRIC COMPONENT RATING:
S – NEMA 4x weatherproof & CSA/ULC
N – CSA, & low temp. -45 Deg.C - NEMA 4x
X – CSA Cl. 1,1 Div 1 & 2 **Gr. C & D**, Cl. II,
 Gr. E,F,G - option NEMA 4x, NEMA 7
Y – CSA Cl. 1,1 Div 1 & 2 **Gr.D**, Cl. II, Gr. E,F,G
A – ATEX Explosion Proof EExe IId.
L – Low Temp **-50 Deg. F / -46 Deg. C**
H – High temp. **+150 Deg. F / +65 Deg. C**
M – Marine or Submersible See Custom (*)

ACTUATION: X
S – Single Acting
D – Double Acting
P – Step Positioning
M – Proportional Control valve

VALVE FUNCTION: Y
C - F/C fail close
O - F/O fail open
L - F/L Fail Last (o/c position)
F - F/F Fail Freeze (in position)
M – Modulating

Customization Features (*) (pg.3)
000 – 999 SEE SPECIFICATION SHEET FOR DETAILS

- A** – Limit Switch 4X SPDT (2 AUX.) Mechanical Type
- B** – Limit Switch 4X SPDT (2 AUX.) Proximity Type
- S** – Limit Switch SW44 & Arrow Indicator (*)
- C** – Solenoid for – Pres. Pilot Override for (P -)
- D** – Push button (OPEN) (CLOSE) & (STOP*)
- E** – HOA Hand Off Auto - optional feedback switch see (*)
- F** – Manual Selector – OPEN/AUTO/CLOSE & Sensors(*)
- G** – Hydraulic Accumulator(s) (*)
- H** – Electric Heater & Thermostat
- I** – Pressure Sensor for EHSC Hyd. (*)
- P** – Process Pressure Pilot or Sensor (*)
- W** – Weather Enclosure **x = QTY** or **VxW** + view window

SOLENOID CONTROL TYPE - # of solenoids & function:
A – 120 VAC. (De-energize to failsafe line valve) (*)
B – 120 VAC. (Energize and hold for stroke) (*)
C – 24 VDC (De-energize to failsafe line valve) (*)
D – 24 VDC (Energize and hold for stroke) (*)
E – 12 VDC (De-energize to failsafe line valve) (*)
F – 12 VDC (Energize and hold for stroke) (*)
G – 220 VAC (De-Energize to failsafe line valve) (*)
H – 220 VAC (Energize and hold for stroke) (*)
I – 125VDC (DE-Energize to failsafe line valve) (*)
J – 125VDC (Energize and hold for stroke) (*)
M – Positioning 24VDC ref., 4-20 input & N/O= hold sol.
 (*) **# qty**, Main Solenoid-open/close, # of additional solenoids

MOTOR HP (rated at 1760 RPM unless custom) M
0 – No motor (hand pump only)
1 - 3/4 HP 24 VDC
2 - 1 HP 120 VAC. 1Ph/60Hz
3 - 2 HP 220/240 VAC 1Ph/60Hz
4 - 1/3 HP 12 VDC (*custom)
5 - 1 HP 220/240 VAC, 3Ph/60Hz
6 - 2 HP 220/240 VAC, 3Ph/60Hz
7 - 2 HP 460/480 VAC, 3Ph/60Hz
8 - 5 HP 460/480 VAC. 3Ph/60Hz
9 - 1 HP -125/130 VDC
C - CUSTOM MOTOR DEFINED CUSTOM (*)



Stand Alone EH PU



GVO Linear EHSC



Quarter-Turn EHSC

ELECTRO-HYDRAULIC CONTROL SYSTEM FOR ¼ TURN and LINEAR ACTUATORS

ACTUATOR SELECTION GUIDE

NO	BRAND	MODEL	TYPE	SIZING P	MOP	NOTES
01	BETTIS	35D SRM	Scotch Yoke SR		250 psi	
02	BETTIS	35D SRH	Scotch Yoke SR		1500 psi	
03	BETTIS	50D SRH	Scotch Yoke SR		1500 psi	
04	BETTIS	60D SRH	Scotch Yoke SR		1500 psi	
05	BETTIS	70D SRH	Scotch Yoke SR		1500 psi	
06	BETTIS	83D SRH	Scotch Yoke SR		1500 psi	
07	BETTIS	103D SRH	Scotch Yoke SR		1500 psi	
08	BETTIS	123D SRH	Scotch Yoke SR		1500 psi	
09	BETTIS	1xxD SRH	Scotch Yoke SR		1500 psi	
10	BETTIS	35S	Scotch Yoke DA		2000 psi	
11	BETTIS	35D	Scotch Yoke DA		2000 psi	
12	BETTIS	50D	Scotch Yoke DA		2000 psi	
13	BETTIS	60D	Scotch Yoke DA		2000 psi	
14	BETTIS	70D	Scotch Yoke DA		2000 psi	
23	BETTIS	23DH	Scotch Yoke DA		1480 psi	
33	BETTIS	33DH	Scotch Yoke DA		1480 psi	
43	BETTIS	43DH	Scotch Yoke DA		1480 psi	
53	BETTIS	53DH	Scotch Yoke DA		1460 psi	
56	BETTIS	56DH	Scotch Yoke DA		1460 psi	
66	BETTIS	66DH	Scotch Yoke DA		1460 psi	
67	BETTIS	67DH	Scotch Yoke DA		1460 psi	
77	BETTIS	77DH	Scotch Yoke DA		1460 psi	
87	BETTIS	87DH	Scotch Yoke DA		1460 psi	
97	BETTIS	97DH	Scotch Yoke DA		1460 psi	
107	BETTIS	107DH	Scotch Yoke DA		1460 psi	
RV	SHAFER	DA	Rotary Vane		1000-1500 psi	Suffix unique fore DA types dia x ht.
X1	HYTORK	XL DA or SR	Rack & Pinion		120-150 psi*	Suffix unique for all low pressure types, specify model
X2	BETTIS	D (DA) or DS (SR)	Rack & Pinion		120-150 psi*	Suffix unique for all low pressure types, specify model
X3	BETTIS	BHH/BHHF	Helical Spline		1500-3000 psi*	Suffix unique for all high pressure types, specify model
X4	BETTIS	G Series HP DA G Series HP SR	Scotch Yoke		800-3000 psi*	Suffix unique for all high pressure types, specify model
X5	BETTIS	HD/T Series HP	Scotch Yoke		800-2000 psi*	Suffix unique for all high pressure types, specify model
X6	BETTIS	GVO HP SR GVO HP FS	Gate Valve Op.		1500-1750 psi	GVO HP SR specify model and extend or retract by spring. suffix unique to each size.
X7	BETTIS	GVO HP DA	Gate Valve Op.		1500-1750 psi	GVO HP DA specify model , suffix unique to each size.
X8	SFPA	UR SER. DA	Gate Valve Op.		1000-2500 psi	Matrix suffix will include unique no. of model and pres.
X9	OTHER	SPECIFY	See vendor model		See model	Matrix suffix will include unique no. of model and pres.