

Publication 25182 Rev. AG

# Industrial Products Catalog



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# 1. Turbine Controls and Associated Devices

## 2301E-ST Steam Turbine Controls

Part Number



2301E-ST – Steam Turbine Control

8273-1013

2301E-ST – Steam Turbine Control, Hazardous Location Zone 2

8273-1014

\*Documentation Product Spec: 03407, Manual: 26694

## Hydro Turbine Controls

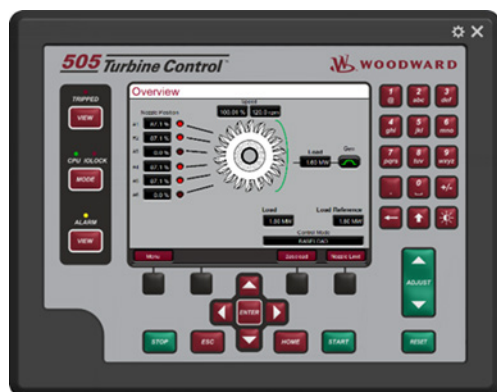
Part Number



2301E-HT – Hydro Turbine Control (Francis), 24 VDC, Ordinary Location

8237-2046

\*Documentation: Product Spec: 03459, Manual: 35092



505HT – LVDC, Pelton Turbines

8200-1400

505HT – HVAC/DC, Pelton Turbines

8200-1401

\*Documentation: Product Spec: 03460, Manual: 35116

505HT – LVDC, Francis / Kaplan Turbines

8200-1402

505HT – HVAC/DC, Francis / Kaplan Turbines	8200-1403
*Documentation: Product Spec: 03461, Manual: 35117	
<b>Accessories:</b>	
17" TouchPanel OCP – Includes RemoteView Software Program	8269-1073
RemoteView - Software License	8928-5311
Old 505 to New 505 Retrofit Wiring Kit	5404-1801

## Peak200 Steam Turbine Controls

Part Number



Peak200 – Bulkhead Mount, LV	8200-1500
Peak200 – Bulkhead Mount, HV	8200-1501
Peak200 – Bulkhead Mount, LV, ATEX Zone 2	8200-1502
Peak200 – Front Panel Mount, LV	8200-1503
Peak200 – Front Panel Mount, HV	8200-1504
Peak200 – Front Panel Mount, LV, ATEX Zone 2	8200-1505
Peak200 – Bulkhead Mount, HV, Class1 Div2 Haz. Loc. Compliant	8200-1508
Peak200 – Front Panel Mount, HV, Class1 Div2 Haz. Loc. Compliant	8200-1509
*Documentation: Product Spec: 03438, Manual: 35051	

## 505 Steam Turbine Controls

Part Number



505 - LVDC, Ordinary Location	8200-1300
505 - HVAC/DC, Ordinary Location	8200-1301
505 - LVDC, ATEX, Zone 2 Hazardous Location	8200-1302
*Documentation: Product Spec: 03422, Manuals: 26839V1, 26839V2	
505-XT - LVDC, Ordinary Location	8200-1310
505-XT - HVAC/DC, Ordinary Location	8200-1311
505-XT - LVDC, Zone-2 Hazardous Location	8200-1312
*Documentation: Product Spec: 03423, Manuals: 35018V1, 35018V2	
505-DR - LVDC, Ordinary Location	8200-1330
505-DR - HVAC/DC, Ordinary Location	8200-1331
Flex500DR FTM Kit – DR FTM, Interconnection Cables	5541-705
*Documentation: Product Spec: 03423, Manuals: 35018V1, 35018V2, 35018V3	

**Auxiliaries**

LinkNet-HT Analog 4-20 mA Module (8 AI and 2 AO)	8200-1203
LinkNet-HT RTD Module (8 RTD Inputs)	8200-1200
LinkNet-HT Discrete Input Module (16 DIs)	8200-1204
LinkNet-HT Discrete Output Module (16 DOs)	8200-1205
RemoteView Software License	8928-5311

**5009XT Steam Turbine Controls****Part Number**

5009XT with 2 120 V AC/DC PS	8262-1141
5009XT with 2 220 VAC PS	8262-1142
5009XT with 2 24 VDC PS	8262-1143
<b>Accessories:</b>	
17" TouchPanel OCP – Includes RemoteView Software Program	8269-1073
RemoteView - Software License	8928-5311
Actuator Module Kit (2 2-Chan Act Modules, 2 Cables, 1 FTM)	8928-7574
Kit 5009XT Optional Analog/IO/FTM/Cable	8928-7575
Control Cabinet- 5009XT MICRONET + PROTECH-GII, (HV/HV, VOTED) + 220VAC TMR PS+ INTEG ACT KIT	9907-2024

**Servo Position Controllers (Replace Digital Remote Final Drivers)****Part Number**

SPC - Configurable Servo/Actuator Driver, Marine Certified	8200-226
SPC - Configurable Servo/Actuator Driver, CANOpen Comm	8200-227
Optional Mounting Bracket – Vertical	8928-7334
*Documentation: Product Spec: 03254, Manual: 26236	

# ProTech® Overspeed Protection Devices

Part Number

## ProTech-SX



ProTech-SX - Panel Mount, HV/LV	8237-1242
ProTech-SX - Panel Mount, HV/HV	8237-1243
*Documentation: Product Spec: 03372, Manuals: 26546V1, 26546V2	

## ProTech-GII



ProTech-GII - Bulkhead Mount, HV/LV, Independent Relays	8237-2594
ProTech-GII - Bulkhead Mount, HV/HV, Independent Relays	8237-2595
ProTech-GII - Bulkhead Mount, HV/LV, Voted Relays	8237-2596
ProTech-GII - Bulkhead Mount, HV/HV, Voted Relays	8237-2597
ProTech-GII - Panel Mount, HV/LV, Independent Relays	8237-2598
ProTech-GII - Panel Mount, HV/HV, Independent Relays	8237-2599
ProTech-GII - Panel Mount, HV/LV, Voted Relays	8237-2600
ProTech-GII - Panel Mount, HV/HV, Voted Relays	8237-2601
*Documentation: Product Spec: 03370, Manual: 35086	

## ProTech TPS



ProTech TPS - Bulkhead Mount, HV/LV, Independent Relays	8237-2602
ProTech TPS - Bulkhead Mount, HV/HV, Independent Relays	8237-2603
ProTech TPS - Bulkhead Mount, HV/LV, Voted Relays	8237-2604
ProTech TPS - Bulkhead Mount, HV/HV, Voted Relays	8237-2605
ProTech TPS - Panel Mount, HV/LV, Independent Relays	8237-2606
ProTech TPS - Panel Mount, HV/HV, Independent Relays	8237-2607
ProTech TPS - Panel Mount, HV/LV, Voted Relays	8237-2608
ProTech TPS - Panel Mount, HV/HV, Voted Relays	8237-2609
*Documentation: Product Spec: 03371, Manuals: 35059V1, 35059V2, 26712	



## MicroNet Safety Module



MicroNet Safety Module - Bulkhead Mount, HV/LV, Independent Relays	8237-2492
MicroNet Safety Module - Bulkhead Mount, HV/HV, Independent Relays	8237-2493
MicroNet Safety Module - Bulkhead Mount, HV/LV, Voted Relays	8237-2494
MicroNet Safety Module - Bulkhead Mount, HV/HV, Voted Relays	8237-2495
MicroNet Safety Module - Panel Mount, HV/LV, Independent Relays	8237-2496
MicroNet Safety Module - Panel Mount, HV/HV, Independent Relays	8237-2497
MicroNet Safety Module - Panel Mount, HV/LV, Voted Relays	8237-2498
MicroNet Safety Module - Panel Mount, HV/HV, Voted Relays	8237-2499
*Documentation: Product Spec: 03375, Manuals: 35060V1, 35060V2, 26712	
<b>Conversion Kits</b>	
Old ProTech-GII models to new ProTech-GII models - Refer to PCN 06946 for details/limitations	8929-039
Old ProTechTPS models to new Input Voting ProTechTPS - Refer to PCN 06947 for details/limitations	8929-037

## 2. Compressor Controls and Associated Devices

### Vertex Controllers

Part Number

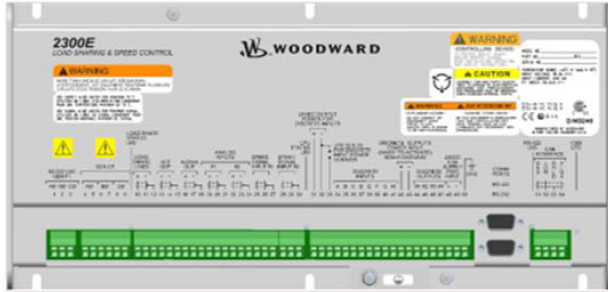


Vertex (18-36 VDC, Standard Compliance) Compressor Control	8200-1370
Vertex (88-264 VAC or 90-150 VDC, Standard Compliance) Compressor Control	8200-1371
Vertex (18-36 VDC, ATEX Compliance) Compressor Control	8200-1372
VertexDR (18-36 VDC, Standard Compliance) Compressor Control	8200-1373
VertexDR (88-264 VAC or 90-150 VDC, Standard Compliance) Compressor Control	8200-1374
VertexDR (18-36 VDC, ATEX Compliance) Compressor Control	8200-1375
Flex500DR FTM Kit – DR FTM, Interconnection Cables	5541-705
*Documentation: Spec: 03437, Manuals: 35072V1, 35072V2, 35072V3	
<b>Auxiliaries</b>	
Distributed I/O Module - RTCnet RTD (100/200ohm)	8200-1100
Distributed I/O Module - RTCnet T/C (Fail High)	8200-1101
Distributed I/O Module - RTCnet AIO Loop power	8200-1103
Distributed I/O Module - RTCnet DIN (16ch)	8200-1104
Distributed I/O Module - RTCnet DOUT (16ch)	8200-1105
RemoteView Software License	8928-5311
*Documentation: FTM Configuration Instructions; Manual 26838 (page 65, Appendix)	

## 3. Electronic Controls

### 2300E Electronic Load Sharing and Speed Controls

Part Number



2300E – Hardware Only, Ordinary Locations	8273-1017
2300E – Hardware Only, Zone 2 Hazardous Locations	8273-1018
*Documentation: Product Spec: 03405, Manual: 26691	

### Flex500 Platform

Part Number



Flex500 – Front Panel Mount, LVDC, OCP	8200-1343
Flex500 – Front Panel Mount, HVAC/DC, OCP	8200-1344
Flex500 – Front Panel Mount, LVDC, Zone-2, OCP	8200-1345
Flex500 – Back Panel Mount, LVDC	8200-1353
Flex500 – Back Panel Mount, HVAC/DC	8200-1354
Flex500 – Back Panel Mount, LVDC, Zone-2	8200-1355
*Documentation: Product Spec: 03433, Manual: 26838	

#### Auxiliaries

CSM - 505XT Core Source License	8447-5006
CSM - Vertex Core Source License (core software licenses allow CSMs to program and run on a Flex500 controller)	8447-5008
LinkNet-HT and RTCNet modules	Refer to Section 4.8.10
GAP, CIS, RemoteView, & NetSim software programs	Refer to Chapter 5

## MicroNet™ System Modules, Cables, and Accessories



\*MicroNet+ Documentation: Product Spec: 03333, Manuals: 26166V1, 26166V2, 26199V3, & 26479

\*MicroNetTMR Documentation: Product Spec: 03363, Manuals: 26167V1, 26167V2, & 26167V3

<b>Chassis</b>				
Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
MicroNet Plus 8 Slot Chassis	5453-829			
MicroNet Plus 14 Slot Chassis	5453-759			
MicroNet TMR Chassis	5453-279			
MicroNet TMR Power Supply Chassis	5453-277	Connect to main chassis using 5416-977 ribbon cable and redundant 5417-293 power supply interconnect cable.		

<b>Power Supplies</b>				
Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
MicroNet Plus PS - 24 VDC Input	5466-1000			
MicroNet Plus PS – 110 VAC/125 VDC Input	5466-1001			
MicroNet Plus PS – 220 VAC Input	5466-1002			
MicroNet TMR PS - 24 VDC Input	5501-370			
MicroNet TMR PS - 120 VAC/VDC Input	5501-380			
MicroNet TMR PS 0 220 VAC Input	5501-381			
MicroNet TMR Kernel PS	5466-1049	Only used with CPU5200		

<b>CPU Modules</b>				
<b>Description</b>	<b>Part Numbers</b>	<b>Notes</b>	<b>Field Termination Modules</b>	<b>Cable Selection Table</b>
5200CPU MicroNet TMR	5466-1347	Use with 5466-1246 RTN Expansion Rack Module, requires 5466-1049 Kernel P.S.		
5200CPU MicroNet TMR (Preferred)	5466-1247	Use with 5466-1246 RTN Expansion Rack Module; requires 5466-1049 Kernel Power Supply		
Module- MicroNet Plus P1020 CPU	5466-1511			
Module- MicroNet Plus P1020 CPU (Secured Application)	5466-1521			

<b>Communication Modules</b>				
<b>Description</b>	<b>Part Numbers</b>	<b>Notes</b>	<b>Field Termination Modules</b>	<b>Cable Selection Table</b>
RTN to CAN Gateway (bulkhead mount Atlas based)	8200-1250	CAN to RTN Gateway Interface.		
RTN Gateway – 10 CAN, Enhanced	8200-1252			
RTN Gateway – 10 CAN, Cyber	8200-1253			
MicroNet Plus RTC (cyber-security)	5466-1046	The only other RTN that can be used with P1020.		
Remote RTN (MicroNet Plus) (Cyber-Security) LICENSED	5466-1146	Real Time Network XCVR (cyber-security). Use with 5466-1145 style of CPU.		
Remote RTN (MicroNet Plus) - Secure Application	5466-1246	Real Time Network XCVR (cyber-security). Use with 5466-1141 & 5466-1245 CPUs.		
SIO Module, with screw posts, smart-plus	5466-5006			
SIO Module - , 4 Channel, two RS232, two configurable (RS232, RS422, RS485), Slide Locks	5466-5007	Connectors use DB-9 with slide lock posts.		Table I

<b>Input Modules</b>				
<b>Description</b>	<b>Part Numbers</b>	<b>Notes</b>	<b>Field Termination Modules</b>	<b>Cable Selection Table</b>
Speed Sensor - 4 channel, MPU	5466-5000		5437-523	Table J
Speed Sensor - 4 channel, MPU / Eddy Probe	5466-5001		5437-523	Table J
Speed Sensor - 4 channel, 2 MPU / 2 Prox	5466-5002		5437-523	Table J
Speed Sensor - 4 channel, 3 MPU / 1 Prox	5466-5003		5437-523	Table J
Pressure Interface - 2 Channel (4 transducers/channel)	5466-326	See Pressure Transducer Assemblies	5437-523	Table J

<b>Output Modules</b>				
<b>Description</b>	<b>Part Numbers</b>	<b>Notes</b>	<b>Field Termination Modules</b>	<b>Cable Selection Table</b>
Actuator Driver - 2 channel +/- 12.25 mA Integrating or Proportional (software selectable) Outputs	5501-1428	Bi-Polar ( ± ) Actuator Driver	5437-672	Table K
Actuator Driver - 2 channel +/- 30 mA Integrating or Proportional (software selectable) Outputs	5501-1429	Bi-Polar ( + ) Actuator Driver	5437-672	Table K
Actuator Driver - 2 channel +/- 60 mA Integrating or Proportional (software selectable) Outputs	5501-1430	Bi-Polar ( + ) Actuator Driver	5437-672	Table K
Actuator Driver - 2 channel +/- 120 mA Integrating or Proportional (software selectable) Outputs	5501-1431	Bi-Polar ( + ) Actuator Driver	5437-672	Table K
Actuator Driver - 2 channel +/- 245 mA Integrating or Proportional (software selectable) Outputs	5501-1432	Bi-Polar ( + ) Actuator Driver	5437-672	Table K
Real Time SIO - Connects to GS/LQ & EM Drivers	5503-267	Uses screw post connectors. Use with LQ Driver & EM Digital. Multidrop is not allowed with this module.		

<b>Input &amp; Output Modules</b>				
<b>Description</b>	<b>Part Numbers</b>	<b>Notes</b>	<b>Field Termination Modules</b>	<b>Cable Selection Table</b>
High Density Combo I/O - 4 Speed Inputs, 12 I/V (4-20 mA or 0-5 V) Selectable Inputs, 4 4-20 mA Outputs	5466-1105	Speed inputs have high accuracy. All 4-20mA outputs are actuator outputs. No 0-200mA outputs available. Speed inputs use low-density cable & Analog I/O use high-density cable.	For Simplex: 5437-523 (1) 5501-376 (1) For TMR: 5501-372 (1) 5501-502 (1)	Table J Table M
High Density Combo I/O - 4 Speed Inputs (Selectable MPU/PROX/EDDY), 12 Analog Inputs (Selectable 4-20 mA or 0-5 V), 4 Analog Outputs (4-20 mA 600 Ohm)	5466-1115	Speed inputs have standard accuracy (same as -316). All 4-20mA outputs are actuator outputs. No 0-200mA outputs available. Speed inputs use low-density cable & Analog I/O use high-density cable.	For Simplex: 5437-523 (1) 5501-376 (1) For TMR: 5501-372 (1) 5501-502 (1)	Table J Table M
Simplex Discrete I/O - 48 Inputs / 24 Outputs	5466-1050	Digital I/O, SW compatible only in coder 5.0x and up. Simplex FTM relay drivers 5441-693, 5441-694 FTMs are also options.	5501-325 (HV) (1) or 5501-367 (LV) (1)	Table M (2 cables)
Simplex Discrete I/O - 48 Inputs / 24 Outputs -2 (spare)	5466-1158	Digital I/O, use as a spare only. Backward compatible with older systems. SW compatible only in coder 4.06, 5.04, 6.00. Simplex FTM relay drivers 5441-693, 5441-694 FTMs are also options	5501-325 (HV) (1) or 5501-367 (LV) (1)	Table M (2 cables)
High Density Analog I/O - 24 Inputs (Selectable 4-20 mA or 0-5 V) (5mS Anti-aliasing filter on A/I ch. 23/24), 8 Outputs (4-20 mA 600 Ohms) Isolated I/O	5466-5025	2 High Density Analog/Discrete Cables	5501-376 (2) or TMR 5501-372 (2)	Table M (2 cables)
Simplex High Density Analog I/O - 24 4-20 mA Inputs (5mS Anti-aliasing filter on A/I ch. 23/24), 8	5466-5026		5501-376 (2) or TMR 5501-372 (2)	Table M (2 cables)
TMR and Dataforth High Density I/O - 24 0-5 V Inputs (5mS Anti-aliasing filter on A/I ch. 23/24), 8 4-20 mA Outputs	5466-5027	All inputs configured for voltage inputs for use with TMR or DataForth. For use with DataForth FTMs see 9097-601 Dataforth module TAB.	Dataforth: 5441-695 (2) TMR 5441-697 (2) or TMR: 5501-372 (2)	Table M (2 cables)
TMR Combo I/O - (4) MPU's, (8) 0-5 Volt Inputs, (4) 4-20 mA Outputs, (2) Prop. Actuator Outputs	5466-253		5501-365 (2)	Table J
TMR Discrete I/O - 48 Inputs / 24 Outputs	5466-1051	With 4 FTMs and 3 MicroNet cards, system I/O is 24 DI and 12 DO.	5453-276 (4)	Table M (2 cables)
TMR Discrete I/O - 48 Inputs / 24 Outputs (spare)	5466-1156	Digital I/O. Use as a spare only. Backward compatible with older	5453-276 (4)	Table M (2 cables)

		systems. SW Compatible only in coder 4.06, 5.04, 6.00. With 4 FTMs and 3 MicroNet cards, system I/O is 24 DI and 12 DO.		
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### Relay FTMs

Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
Discrete Output Relay - 32 channel, 10 Amp at 28 VDC	5441-413	1 Form 'C' contact per relay		Table K
Discrete Output Relay - 16 channel, 10 Amp at 28 VDC, 2 Form 'C' contacts per relay	5441-419	2 Form 'C' contacts per relay		Table K
Discrete Output Relay - 16 channel, 10 Amp at 28 VDC	1751-6091	DIN Rail mount		Table K
Discrete I/O - 24 Inputs /12 Relay Outputs	5441-693	Purchased from Phoenix Contact. No surface mount components.		Table M
Discrete I/O - 24 Inputs /12 Relay Driver	5441-694	Purchased from Phoenix Contact. No surface mount components.		Table M
Discrete I/O - 48 Inputs – 24 VDC, 24 Discrete Outputs J1 & J2 to J3 cable connectors	5501-367	Simplex high density discrete inputs. Discrete outputs are routed from J1 & J2 to J3.		Table M
TMR Discrete I/O - 6 Inputs, 3 Relay Outputs	5453-276	Used with 5009FT and TMR applications. Uses cable 5417-019 between FTMs.		Table M

### LINKnet HT Modules

Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
RTD Input - 8 Channel	8200-1200			Table R
Thermocouple Input - 8 Channel, Fail high	8200-1201			Table R
4-20 mA - 8 Inputs / 2 Outputs	8200-1202			Table R
4-20 mA - 8 Inputs / 2 Outputs, 24 VDC Loop Power	8200-1203			Table R
Discrete Input - 16 Channel	8200-1204			Table R
Discrete Output - 16 Channel	8200-1205			Table R

### RTCnet Modules

Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
RTD Input - 8 Channel	8200-1100			Table R
Thermocouple Input - 8 Channel, Fail high	8200-1101			Table R
Thermocouple Input - 8 Channel, Fail high, High Accuracy	8200-1151	Use for gas turbine EGT monitoring.		Table R
4-20 mA - 8 Inputs / 2 Outputs	8200-1102			Table R



4-20 mA - 8 Inputs / 2 Outputs, 24 VDC Loop Power	8200-1103			Table R
Discrete Input - 16 Channel	8200-1104			Table R
Discrete Output - 16 Channel	8200-1105			Table R
Termination Resistor Kit	8923-1889			

### Dataforth I/O

Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
Thermocouple - K-Type	1784-1028	Datforth PN: SCM7B47K-1574	5441-695	
RTD - 100 Ohm	1784-655	Datforth PN: SCM7B34-1459, European Curve	5441-695	
4-20 mA Input	1784-659	Datforth PN: SCM7BPT-1460	5441-695	
0-5 VDC Input	1784-657	Datforth PN: SCM7BPT	5441-695	

### Network Switches

Description	Part Numbers	Notes	Field Termination Modules	Cable Selection Table
Ethernet - 8 Port, RJ45 Connectors	1711-1350	Phoenix Contact switch FL SWITCH SFNT 8TX, Compatible with CPU5200, Recommended for Expansion Racks		

MicroNet System Cables		
Table A. NetCon Analog Cables		
6 feet, Black	5416-346	Netcon style exposed braid
8 feet, Black	5416-347	Netcon style exposed braid
10 feet, Black	5416-348	Netcon style exposed braid
12 feet, Black	5416-349	Netcon style exposed braid
14 feet, Black	5416-350	Netcon style exposed braid
16 feet, Black	5416-351	Netcon style exposed braid

Table B. NetCon Discrete Cables		
3 feet, Gray	5416-332	
6 feet, Gray	5416-333	
8 feet, Gray	5416-334	
10 feet, Gray	5416-335	
16 feet, Gray	5416-338	

Table C. Ethernet Cat-5 Cables		
1.5 feet	5417-391	
3 feet	5417-392	
7 feet	5417-393	
10 feet	5417-394	
15 feet	5417-1243	
25 feet	5417-396	

Table D. MicroNet TMR Cables		
PS Interconnect Cable, 40"	5417-293	Used between power supply & main chassis.

Table F. Shielded RS232 Serial Port Extension Cables		
6 feet, Black	5417-026	MicroNet style-no exposed braid
8 feet, Black	5417-027	MicroNet style-no exposed braid
10 feet, Black	5417-028	MicroNet style-no exposed braid
12 feet, Black	5417-029	MicroNet style-no exposed braid
14 feet, Black	5417-030	MicroNet style-no exposed braid
16 feet, Black	5417-031	MicroNet style-no exposed braid
18 feet, Black	5417-032	MicroNet style-no exposed braid
20 feet, Black	5417-033	MicroNet style-no exposed braid
22 feet, Black	5417-034	MicroNet style-no exposed braid

Table G. MicroNet Low Density Analog Cables		
3 feet, Gray	5417-037	
6 feet, Gray	5417-038	
8 feet, Gray	5417-039	
10 feet, Gray	5417-040	

12 feet, Gray	5417-041	
14 feet, Gray	5417-042	
16 feet, Gray	5417-043	
18 feet, Gray	5417-044	
20 feet, Gray	5417-045	
22 feet, Gray	5417-046	
24 feet, Gray	5417-047	
26 feet, Gray	5417-048	
40 feet, Gray	5417-049	

Table H. MicroNet Low Density Discrete Cables		
6 feet, Gray	5417-171	
8 feet, Gray	5417-172	
10 feet, Gray	5417-173	
12 feet, Gray	5417-174	
14 feet, Gray	5417-175	
16 feet, Gray	5417-176	
18 feet, Gray	5417-177	
20 feet, Gray	5417-178	

Table I. 541 Fiber Optic Cables ST Type Bayonet		
NETWORK TEE, 7/8' M/F BUS, F DROP	1635-1463	
NETWORK TERMINATOR, MALE 121 OHM	1635-1464	
NETWORK TERMINATOR, FEMALE 121 OHM	1635-1465	
THICK TRUNK CABLE (3M)	5417-1113	0.41 Diameter
THICK TRUNK CABLE (6M)	5417-1115	0.41 Diameter
THICK DROP, 7/8' MALE TO PIGTAIL, (0.3M)	5417-1116	
THICK DROP, 7/8' MALE TO PIGTAIL, (1M)	5417-1117	
THICK DROP, 7/8' MALE TO PIGTAIL, (3M)	5417-1119	
THICK DROP, 7/8" MALE TO PIGTAIL, (6M)	5417-1281	
MICRONET DROP, M12 FEMALE TO 7/8' MALE, (0.5M)	5417-1120	0.28 Diameter
MICRONET DROP, 7/8' MALE TO M12 FEMALE, (1M)	5417-1127	0.28 Diameter
MICRONET DROP, 7/8' MALE TO M12 FEMALE, (2M)	5417-1128	0.28 Diameter
MICRONET DROP, 7/8" MALE TO M12 FEMALE, (3M)	5417-1245	0.28 Diameter
MID DROP, 7/8' MALE TO PIGTAIL, (1M)	5417-1142	
MID DROP, 7/8' MALE TO PIGTAIL, (2M)	5417-1143	
MID TRUNK CABLE (0.5M)	5417-1145	0.33 Diameter
MID TRUNK CABLE (6M)	5417-1150	0.33 Diameter

## MicroNet TMR Hardware Kits

Part Number



MicroNet TMR Hardware Kit with 4565-1115, 120V AC/DC	8262-1145
MicroNet TMR Hardware Kit with 4565-1115, 220V AC	8262-1146
MicroNet TMR Hardware Kit with 4565-1115, 24 VDC	8262-1147
MicroNet TMR Hardware Kit with 4565-253, 120V AC/DC	8262-1148
MicroNet TMR Hardware Kit with 4565-253, 220V AC	8262-1149
MicroNet TMR Hardware Kit with 4565-253, 24 VDC	8262-1150

## MicroNet Plus Hardware Kits

Part Number



Standard MicroNet+ Kit, 8-Slot, 2 120 V AC/DC PS, Relay Drivers, Speed Combo Module	8262-3183
Standard MicroNet+ Kit, 8-Slot, 2 120 V AC/DC PS, Relay Drivers, Analog Combo Module	8262-3191
Standard MicroNet+ Kit, 8-Slot, 2 220 VAC PS, Relay Drivers	8262-3184
Standard MicroNet+ Kit, 8-Slot, 2 24 VDC PS, Relay Drivers	8262-3185
Standard MicroNet+ Kit, 8-Slot, 2 120 V AC/DC PS, Relays	8262-3180
Standard MicroNet+ Kit, 8-Slot, 2 220 VAC PS, Relays	8262-3181
Standard MicroNet+ Kit, 8-Slot, 2 24 VDC PS, Relays	8262-3182
*Documentation: Product Spec: 03333, Manuals: 26166V1, 26166V2, 26479	

## Magnetic Pickups



Description	Thread	Thread Length	DC Resistance	Ratings	Compatible Connector	Part Number
MPU-70 VPP	0.625-18	1.4"	210 ohms	None	1630-755	202816
MPU-50 VPP	0.625-18	2.0"	200 ohms	None	1630-755	1680-613
MPU-60 VPP	0.625-18	2.5"	250 ohms	None	1630-755	1680-622
MPU-60 VPP	0.625-18	4.5"	250 ohms	None	1630-755	1680-631
MPU-60 VPP	0.625-18	3.5"	260 ohms	CSA Div1	None-3x 10ft. 18awg wires	1680-637
MPU-60 VPP	M16x1.5	3.0"	250 ohms	None	1630-755	1680-649
MPU-54 VPP	0.750-20	1.87"	180 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2004
MPU-54 VPP	0.625-18	4.0"	200 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2005
MPU-54 VPP	0.625-18	2.75"	200 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2006
MPU-54 VPP	0.625-18	6.0"	200 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2007
MPU-54 VPP	0.625-18	1.87"	180 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2008
MPU-54 VPP	0.625-18	3.0"	180 ohms	CSA&ATEX – Div1	None-3x 10ft. 18awg wires	1680-2009
MPU-54 VPP	0.750-20	1.87"	180 ohms	CSA&ATEX – Div1	None-3x 27ft. 18awg wires	1680-2017
MPU Kit (1680-613) MPU & Connector	0.625-18	2.0"	200 ohms	None	Included	5430-915
MPU Kit (202816) MPU & Connector	0.625-18	1.4"	250 ohms	None	Included	5430-919
MPU Kit (1680-622) MPU & Connector	0.625-18	2.5"	250 ohms	None	Included	5430-929
MPU Kit (1680-631) MPU & Connector	0.625-18	4.5"	250 ohms	None	Included	5430-933
MPU Kit (1680-649) MPU & Connector	M16x1.5	3.0"	250 ohms	None	Included	5430-951
MPU SIL-3 Ex-Proof	0.750-20	1.87"	180 ohms	SIL3 Ex Proof	None-3x 10ft. 18awg wires	1680-2004.SIL
MPU SIL-3 Ex-Proof	0.625-18	4.0"	200 ohms	SIL3 Ex Proof	None-3x 10ft. 18awg wires	1680-2005.SIL
MPU SIL-3 Ex-Proof	0.625-18	2.75"	200 ohms	SIL3 Ex Proof	None-3x 10ft. 18awg wires	1680-2006.SIL
MPU SIL-3 Ex-Proof	0.625-18	6.0"	200 ohms	SIL3 Ex Proof	None-3x 10ft. 18awg wires	1680-2007.SIL

MPU SIL-3 Ex-Proof	0.625-18	1.87"	180 ohms	SIL3 Ex Proof	None-3x 10ft. 18awg wires	1680-2008.SIL
MPU SIL-3 Ex-Proof	0.750-20	1.87"	180 ohms	SIL3 Ex Proof	None-3x 27ft. 18awg wires	1680-2017.SIL

### Active Proximity Probes

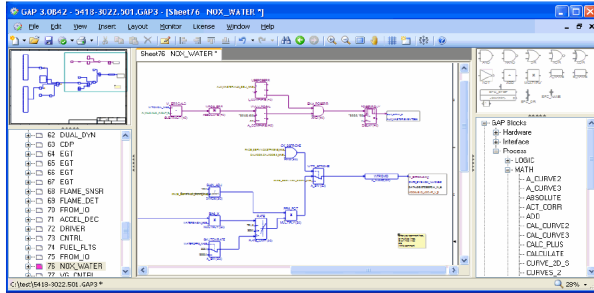
Description	Thread	Thread Length	DC Resistance	Ratings	Compatible Connector	Part Number
Active Probe-5-24VDC	0.625-18	4.0"		None	1631-002, 1631-612	1680-986
Active Probe-7-30VDC	M16x1.5	4.0"		None	1630-249, 1631-002	1689-1114

## 4. Software Licenses

Woodward's Graphical Application Program (GAP™) is used to custom program Woodward's MicroNet™ and Atlas controllers. The GAP install software may be downloaded from the Woodward website for free and can be copied multiple times but does not function unless a software license is purchased for each computer (seat) that it is to be used on. Additional GAP programmer platforms include Flex\*\*\*, LECM, 2301E, 723, 733, 828, etc.

Each listed seat license price below includes one seat license (authorization serial number), which can only be used on one computer.

### GAP Software Programs



GAP Software Programs & Kits	Part Number
GAP Programmer License	8928-810
GAP 4.0 Install File	9927-2662
GAP 3.14 Install File	9927-1591

- This seat license is used to authorize the GAP on any one computer.
- The **GAP Install Program** must be downloaded from Woodward's website before the received program authorization serial number can be used to authorize its use on that computer.
- An un-activated version of the **Monitor-GAP service tool** program is also installed on the target computer during a GAP program install. This Monitor-GAP service tool program can then be activated/authorized by purchasing a Monitor-GAP license (refer to information listed below).
- Woodward's Monitor-GAP service tool program is also installed during GAP programmer installation program and can be authorized and utilized with this program.

GAP-Read-Only Programmer License	(none needed)
GAP-Demo Programmer License	(none needed)

- No license is necessary for the **GAP-Read-Only** software program functionality. When a GAP Programmer program is installed on a computer without an authorization serial number, the program functions as a **Read Only GAP program** or as a **Demo GAP program**.

The **GAP Programmer Install Program** must first be downloaded from Woodward's website onto the desired computer, before it can be used as a Read-Only or Demo based GAP program.

\*Documentation: Product Spec: 03377, Manuals: Included in GAP Program

GAP Software Programs & Kits	Part Number
Monitor-GAP License	8928-5007
Monitor-GAP 4.X License	8928-5361
Editor-GAP 4.X License	8928-5359

- Optionally, the Monitor-GAP service tool program can be authorized and utilized with this program functioning in its Read-Only or Demo modes of operation.
- This license is used to authorize the Monitor-GAP software service tool, and only includes a program authorization serial number for one computer (seat).
- Monitor GAP is a licensed software service tool that allows GAP users to view real-time values in GAP application programs when connected to a control or running NetSim™ (nVe) tools. Monitor GAP works in

parallel with the GAP graphical display and superimposes the actual run-time values into that display environment.

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Old GAP Programs (3.03 and older) CD Install Kits

9927-1591

- Contact Woodward's technical assistance group for part number availability of Old GAP programs, and associated turbine package models.

## Latest ITCC Software Cores

Core Name	Description	WW PN
ASC1 (Anti Surge Control)	ASC1 Core Software	5418-3675
ASC2 (Anti Surge Control)	ASC2 Core Software	5418-3676
ASC3 (Anti Surge Control)	ASC3 Core Software	5418-3677
ASC4 (Anti Surge Control)	ASC4 Core Software	5418-3678
STC (Steam Turbine Core)	STCXT Core Software	10-027-206
PFC (Performance Control Core)	PFC Core Software	10-028-721
LSC (Load Sharing Control)	LSC Core Software	10-024-831

## Graphical User Interface Development and Viewing Program Licenses CIS (Control Interface Studio) GUI Development Software Program

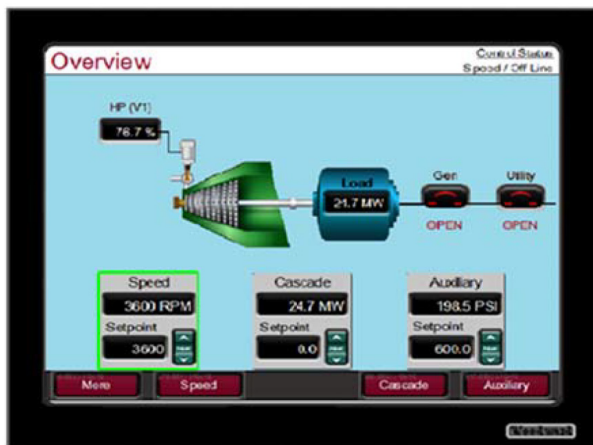
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CIS Yearly Subscription License

1796-3131

- This subscription license is used to authorize the CIS program on any one computer for a period of one year.
- The CIS program is used to create to create GUIs for Flex500 or MicroNet platforms.
- Contact your Woodward customer service representative to purchase a subscription.
- Upon purchase of a CIS subscription license, the user will receive an email notification of Qt account creation and then will be granted 72 hours access to Qt's web portal to upload/install Woodward's CIS program and related component library.
- Subscription & Install Kit includes:
  - Woodward's standard component kit (used by the 505 controller).
  - Example application program, which includes basic screens a typical user would need to create a GUI program similar to the 505 controllers.

## RemoteView Operator Control Panel Program




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RemoteView License

8928-5311

- This license is used to authorize the RemoteView program to function continuously on any one computer.
- The RemoteView program allows users to view CIS based programs on computers or touch panels used with Flex500 or MicroNet platforms.
- Contact your Woodward customer service representative to purchase a license.
- The RemoteView software install program can be obtained/downloaded from Woodward's website.

\*Documentation: Product Spec: 03424, Manuals: Included in RemoteView Program.



**iFix HMI Software License****Part Number**

Proficy iFix Unlimited Tag,1000 PT Hist. M5 USB Key

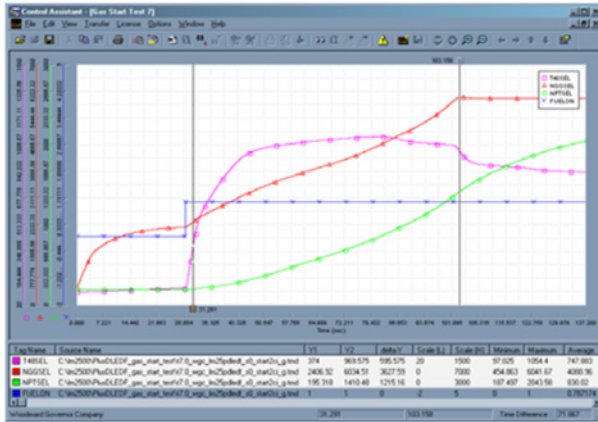
1796-3132

Proficy iFix Unlimited Tag,1000PT Hist. Software

1796-3145

Advantage License

- These licenses are used to authorize the Proficy iFix HMI program to function continuously on HMI computer.
- Contact your Woodward customer service representative to purchase a license.

**Software Service Tool Programs & Kits****Part Number**

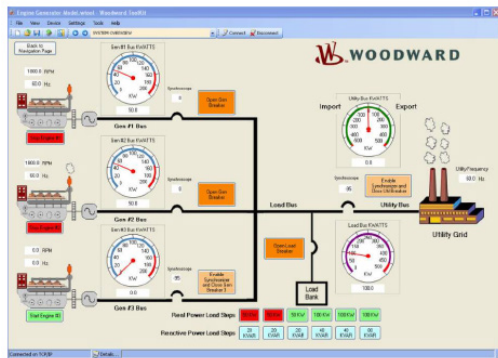
Control Assistant Software License

8928-5014

Control Assistant Install File

9927-1237

- This license is used to authorize the Control Assistant Software tool on one computer (seat).
- The Control Assistant program is used to view high-speed datalog files created in **Atlas, MicroNet, and MicroNet TMR** controllers.
- Control Assistant provides live parameter monitoring, tuning, trending, and off line trending (datalogs).



ToolKit Developer License

8928-5016

This license is used to authorize the Developer functionality in ToolKit, and only includes a program authorization serial number for one computer (seat).

- ToolKit is a licensed software development program used to create Service Tools and Service and Configuration tools for Woodward electronic controllers 2300, 723, 733, LECM, Atlas, and MicroNet via Woodward's Servlink protocol over RS-232/-422/-485 serial, CANOpen, XCP, Ethernet.
- Upon purchasing the developer license, you will be given a serial number. It is important that you keep this number, as it is your proof that you own the license.

AppManager Datalog Retrieval License - Enterprise

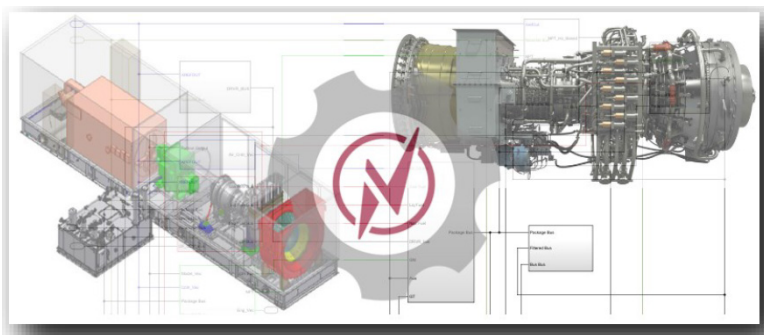
8928-5009

- This license is used to authorize the **AppManager program's datalog retrieval function for four or more controls**, and only includes a program authorization serial number for one computer (seat).
- Datalog retrieval function for 1-3 controls is included in AppManager without a fee.

- The AppManager program's datalog retrieval function is embedded in **AppManager version 2.2 and higher install programs**.
- The **AppManager install program** must be downloaded from Woodward's website and onto the desired computer before the received program authorization serial number can be used to authorize its use on that computer.
- The datalog retrieval functionality performs automatic archiving of datalog files generated on one or more controls connected by a network. The collected files are given unique names based upon the original file name, the last time of modification, and the source control.

## NetSim Simulation Licenses

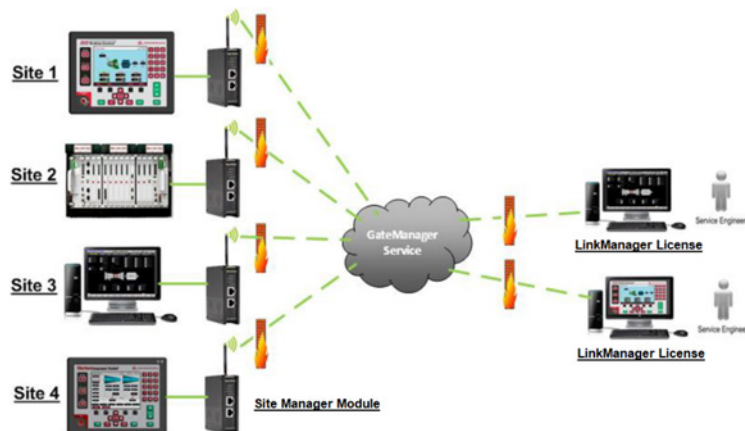
Part Number



NetSim nVe Nodes Only License	8928-5363
<ul style="list-style-type: none"> <li>• This seat license is used to authorize a <b>NetSim Basic Software program</b>, and only includes a program authorization serial number for one computer (seat).</li> <li>• The <b>nVe Control Executive program</b> (PN 9928-1363) must first be downloaded from Woodward's website onto the desired computer before the received program authorization serial number can be used to authorize its use on that computer.</li> <li>• NetSim nVe Nodes Only license is a simulation service tool that allows GAP application programs to be run and tested on a computer before they are downloaded into the control. With this license, once a GAP application program has been created it can then be executed to simulate the open-loop control operation (internal recycler mode). Training is available to utilize GAP-to-GAP modeling techniques to achieve closed-loop control operations with NetSim nVe.</li> <li>• The supported hardware platforms are MicroNet controllers.</li> <li>• Supports GAP programmed hardware platforms.</li> <li>• The NetSim basic program is only compatible with GAP programs using coder 2.08 and higher coder programs. Contact the Woodward technical assistance group for training.</li> </ul>	
NetSim nVe Advanced License	8928-5364
<ul style="list-style-type: none"> <li>• This seat license is used to authorize a <b>NetSim nVe Advanced Software program</b>, and only includes a program authorization serial number for one computer (seat).</li> <li>• The <b>NetSim nVe Control Executive program</b> (PN 9928-1363) must first be downloaded from Woodward's website onto the desired computer before the received program authorization serial number can be used to authorize its use on that computer.</li> <li>• The NetSim nVe Advanced Program is a simulation service tool that allows GAP application programs to be run and tested against turbine models on a computer before they are downloaded into the control. With NetSim nVe Advanced, once a GAP application program has been created it can then be executed against a simulated turbine package to simulate the closed-loop control operation.</li> <li>• Supports GAP-programmed hardware platforms.</li> </ul>	
NetSim nVe Annual Subscription-based Licenses	
All tools (App Manager, CA, GAP4 Editor, Monitor) software annual license, no nVe	8928-5387
Full package (all in 8928-5387) with nVe	8928-5390
Full package, 14 day trial	8928-5388

## Remote Access Program

Part Number



Site Manager Module (SMM-4G)	1711-1418
LinkManager License	8928-5347
First Year GateManager Setup Fee (1-5 LinkMgr licenses)	8928-5389
Yearly GateManager Support Fee (based on # of LinkMgr licenses)	8928-5348

## 5. Electro-Hydraulic Governors and Actuators

### TG Turbine Governors

Preferred Item Number



TG13 Screw, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 2010 rpm	9904-814
TG13 Screw, 2400 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-815
TG13 Screw, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-816
TG13 Lever, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-817
TG13 Lever, 4000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-818
TG13 Lever, 4000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-819
TG13 Screw, 4000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-820
TG13 Screw, 4000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-821
TG13 Screw, 6000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-822
TG13 Screw, 6000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-823
TG13 Lever, 2400 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-824
TG13 Lever, 6000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-825
TG13 Lever, 6000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-826
TG13 Screw, 2400 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 2010 rpm	9904-827
TG13 Screw, 4000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 4035 rpm	9904-828
TG17 Screw, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-800
TG17 Screw, 2400 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 1950 rpm	9904-801
TG17 Screw, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 2010 rpm	9904-802
TG17 Screw, 4000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 4035 rpm	9904-803
TG17 Screw, 4000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-804
TG17 Screw, 4000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 3910 rpm	9904-805

TG17 Screw, 6000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-806
TG17 Screw, 6000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 5860 rpm	9904-807
TG17 Lever, 2400 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 2010 rpm	9904-808
TG17 Lever, 2400 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 2010 rpm	9904-809
TG17 Lever, 4000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 4035 rpm	9904-810
TG17 Lever, 4000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 4035 rpm	9904-811
TG17 Lever, 6000 rpm, CCW Rotation, ATEX, Rated Speed @2° Droop = 6000 rpm	9904-812
TG17 Lever, 6000 rpm, CW Rotation, ATEX, Rated Speed @2° Droop = 6000 rpm	9904-813
*Documentation: Product Spec: 04038, Manual: 04042	

**TG611**

Part Number



TG to TG611 Conversion Kit	8516-174
TG611-13, Screw, 2400 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 2010 rpm	8516-175
TG611-13, Screw, 2400 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 2010 rpm	8516-176
TG611-13, Screw, 2400 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 1950 rpm	8516-177
TG611-13, Screw, 2400 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 1950 rpm	8516-178
TG611-13, Screw, 4000 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 4035 rpm	8516-179
TG611-13, Screw, 4000 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 4035 rpm	8516-180
TG611-13, Screw, 4000 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 3910 rpm	8516-181
TG611-13, Screw, 4000 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 3910 rpm	8516-182
TG611-13, Screw, 6000 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 6050 rpm	8516-183
TG611-13, Screw, 6000 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 6050 rpm	8516-184
TG611-17, Screw, 2400 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 1950 rpm	8516-185
TG611-17, Screw, 2400 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 2010 rpm	8516-186
TG611-17, Screw, 4000 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 4035 rpm	8516-187
TG611-17, Screw, 4000 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 4035 rpm	8516-188
TG611-17, Screw, 4000 rpm, CCW, ATEX, w/OTD, Rated Speed @2° Droop = 3910 rpm	8516-189
TG611-17, Screw, 6000 rpm, CCW, ATEX, w/ OTD, Rated Speed @2° Droop = 6050 rpm	8516-190
TG611-17, Screw, 6000 rpm, CW, ATEX, w/ OTD, Rated Speed @2° Droop = 6050 rpm	8516-191
*Documentation: Product Spec: 04038, Manual: 04042	

## TGE Turbine Actuators

Part Number




TGE13, 2400 rpm	9904-110
TGE13, 4000 rpm	9904-111
TGE13, 6000 rpm	9904-112
TGE17, 2400 rpm	9904-113
TGE17, 4000 rpm	9904-114
TGE17, 6000 rpm	9904-115
*Documentation: Product Spec: 04044, Manual: 04045	

## VariStroke Actuators



VariStroke Selection Procedure:

1. Create VariStroke model number by using information from Figure 5-1 below.
2. Use the VariStroke Sizing Tool as necessary to select the correct size cylinder for the application. The VariStroke Sizing Tool is available from FTC\\servf10\saleskit\Actuation\VariStroke directory or via e-business.
3. Use the developed VariStroke model number from step #1 and the below VariStroke part number table to select the correct internal VariStroke part number.
4. If an internal VariStroke part number does not exist for the required model number, contact our sales team to have a part number created.
  - \*Documentation – VS-I: Product Spec: 03397, Manual: 26727, Maintenance: CMM-03002
  - \*Documentation – VS-GI: Product Spec: 03464, Manual: 35119
  - \*Documentation – VS-DX: Product Spec: 03463, Manual: 35132
  - \*Documentation – VS-II: Product Spec: 03378, Manual: 26740, Maintenance: CMM-03006



### Double Acting VSI - Model Number Information

Revision 9 25/Nov/2019

Varistroke Product Line	Valve Size	Configuration	Action	Bore	Stroke	Rod End	Mounting Option	Fail-Safe Direction	Compliance	Dump valve <sup>4</sup>	Seals
V	XX	X	X	XX	XX	X	X	X	X	XX	XX

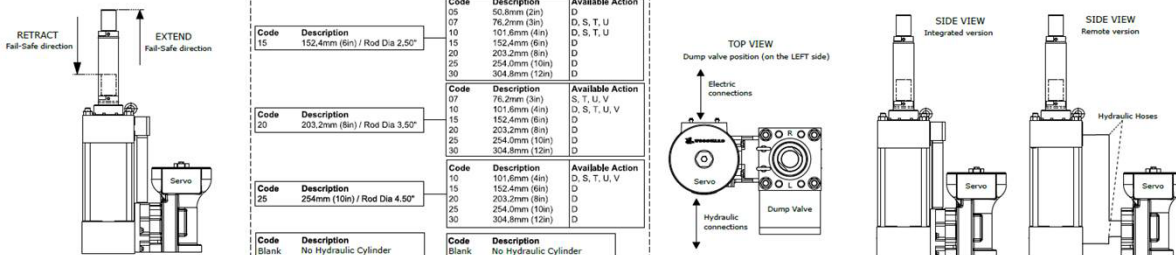
Code	Description	Code	Description	Code	Description	Code	Description
45	VS I / Port 3x .453"	T	Remote <sup>2</sup>	D	Servo working with Double Acting Cylinder <sup>3</sup>	M	Male Thread
D	S, T, U, V	R	Integrated <sup>1</sup>	S, T, U, V	Servo working with Double Acting Cylinder equipped with Internal Springs (Spring Asses)	F	Female Thread
						Blank	No Hydraulic Cylinder
						U	VS I Universal Mount
						Blank	No Hydraulic Cylinder

Code	Description	Code	Description	Code	Description	Code	Description
10	101.6mm (4in) / Rod Dia 1.75"	07	76.2mm (3in)	05	50.8mm (2in)	07	76.2mm (3in)
12	127mm (5in) / Rod Dia 1.75"	10	101.6mm (4in)	15	152.4mm (6in)	10	101.6mm (4in)
		15	152.4mm (6in)	20	203.2mm (8in)	15	152.4mm (6in)
		20	203.2mm (8in)	25	254.0mm (10in)	20	203.2mm (8in)
		25	254.0mm (10in)	30	304.8mm (12in)	25	254.0mm (10in)
		30	304.8mm (12in)			30	304.8mm (12in)

Code	Description	Code	Description	Code	Description	Code	Description
1	Zone 1&2 / Division 1&2	A	Zone 1&2 / Division 2 / TIB <sup>*</sup>	A	Zone 1&2 / Division 2 / CCOE <sup>*</sup>	A	Zone 1&2 / Division 2 / KOSHA <sup>*</sup>
2	Zone 2 / Division 2	B	Zone 2 / Division 2 / TIB <sup>*</sup>	B	Zone 2 / Division 2 / CCOE <sup>*</sup>	B	Zone 2 / Division 2 / KOSHA <sup>*</sup>
3	Zone 1&2 / Division 1&2 / GOST-TR	C	Zone 2 / Division 2 / TIB <sup>*</sup>	C	Zone 2 / Division 2 / CCOE <sup>*</sup>	C	Zone 2 / Division 2 / KOSHA <sup>*</sup>
4	Zone 2 / Division 2 / GOST-TR						
5	Zone 1&2 / Division 1&2 / INMETRO <sup>*</sup>						
6	Zone 2 / Division 2 / INMETRO <sup>*</sup>						
7	Zone 1&2 / Division 1&2 / TIB <sup>*</sup>						
8	Zone 2 / Division 2 / TIB <sup>*</sup>						
9	Zone 1&2 / Division 1&2 / CCOE <sup>*</sup>						
10	Zone 2 / Division 2 / CCOE <sup>*</sup>						
11	Zone 1&2 / Division 1&2 / KOSHA <sup>*</sup>						
12	Zone 2 / Division 2 / KOSHA <sup>*</sup>						

**Notes:**

- Servo installed directly on the hydraulic cylinder thru special pattern holes. Solution dedicated to work with WWD cylinders.
- Servo can be connected to any hydraulic cylinder. Hydraulic connections SAE Code 61 Flange.
- Select this option in case of servo ordering (no hydraulic cylinder).
- External Valve which increases the piston velocity in closing direction even up to 3 times.



**Example Model Number = Servo with Cylinder and without Dump Valve**

**V45RS-1520-FUR1**

- Varistroke
- VS I / 3x .453"
- Remote
- Spring Asses (Spring 1.5%)
- 150mm Bore
- 200mm Stroke
- Female Thread Rod End
- VS I Universal Mount Cylinder
- Fail Retract
- Zone 1&2 / Division 1&2

**Example Model Number = Servo with Cylinder and Dump Valve**

**V45TD-2030-MUE2-DV L**

- Varistroke
- VS I / 3x .453"
- Integrated
- Double Acting Cylinder
- 200mm Bore
- 300mm Stroke
- Male Thread Rod End
- VS I Universal Mount Cylinder
- Fail Extend
- Zone 2 / Division 2
- Cylinder with Dump Valve Ports
- with Dump Valve installed on the Left side

**Example Model Number = Servo only**

**V45RD-R1**

- Varistroke
- VS I / 3x .453"
- Remote
- Double Acting Cylinder
- Fail Retract
- Zone 1&2 / Division 1&2

Bore [in]	Stroke [in]	Spring force [lbf]	Spring			
			S	T	U	V
4	4	MIN	56	114	224	-
		MAX	112	226	478	-
6	3	MIN	108	235	520	-
		MAX	216	471	1040	-
8	3	MIN	276	529	1052	1946
		MAX	510	1057	2104	4046
10	4	MIN	242	528	1052	2023
		MAX	544	1058	2104	4047
10	4	MIN	354	647	1312	2744
		MAX	708	1286	2624	5488

Figure 5-1. Double Acting VariStroke I Model Number Information



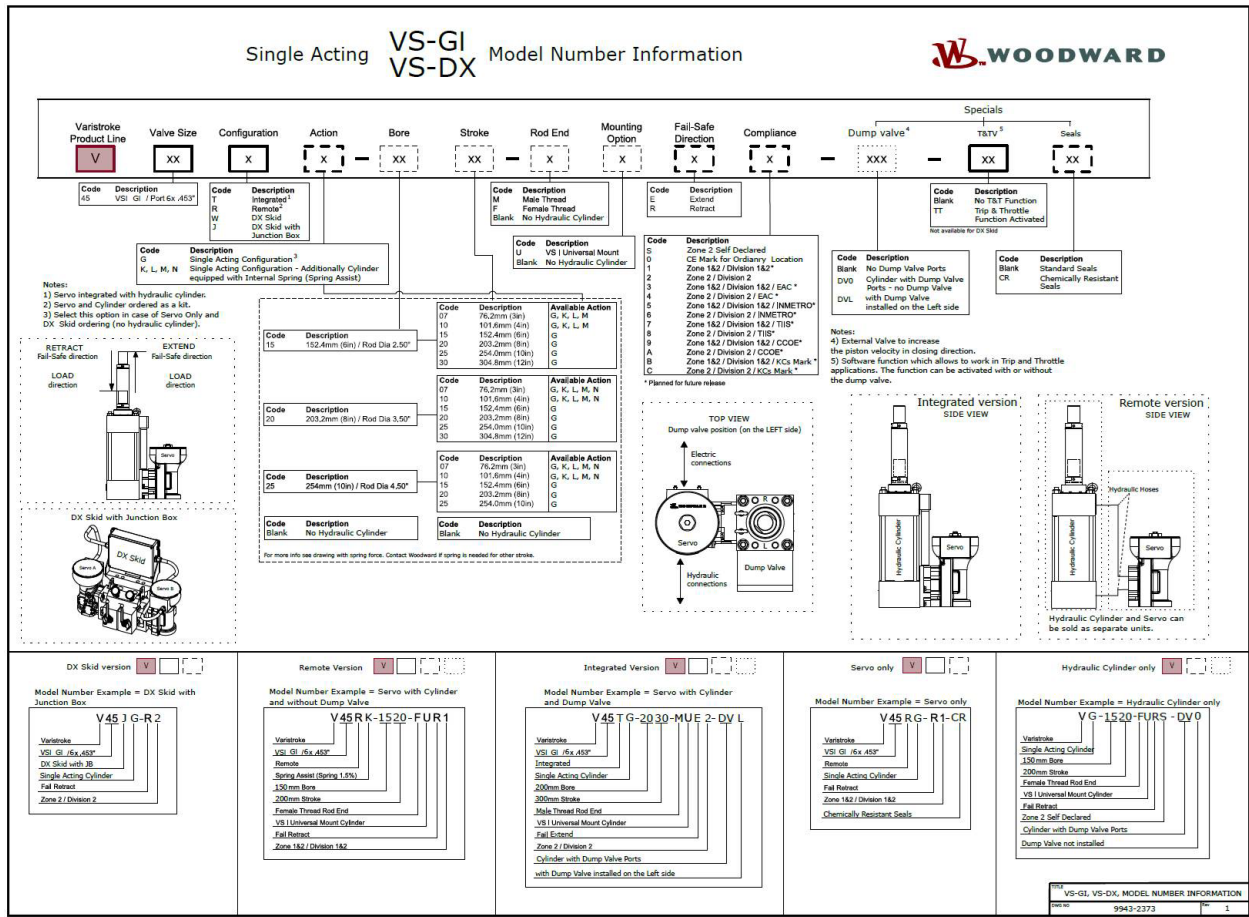


Figure 5-2. Single Acting VariStroke I Model Number Information

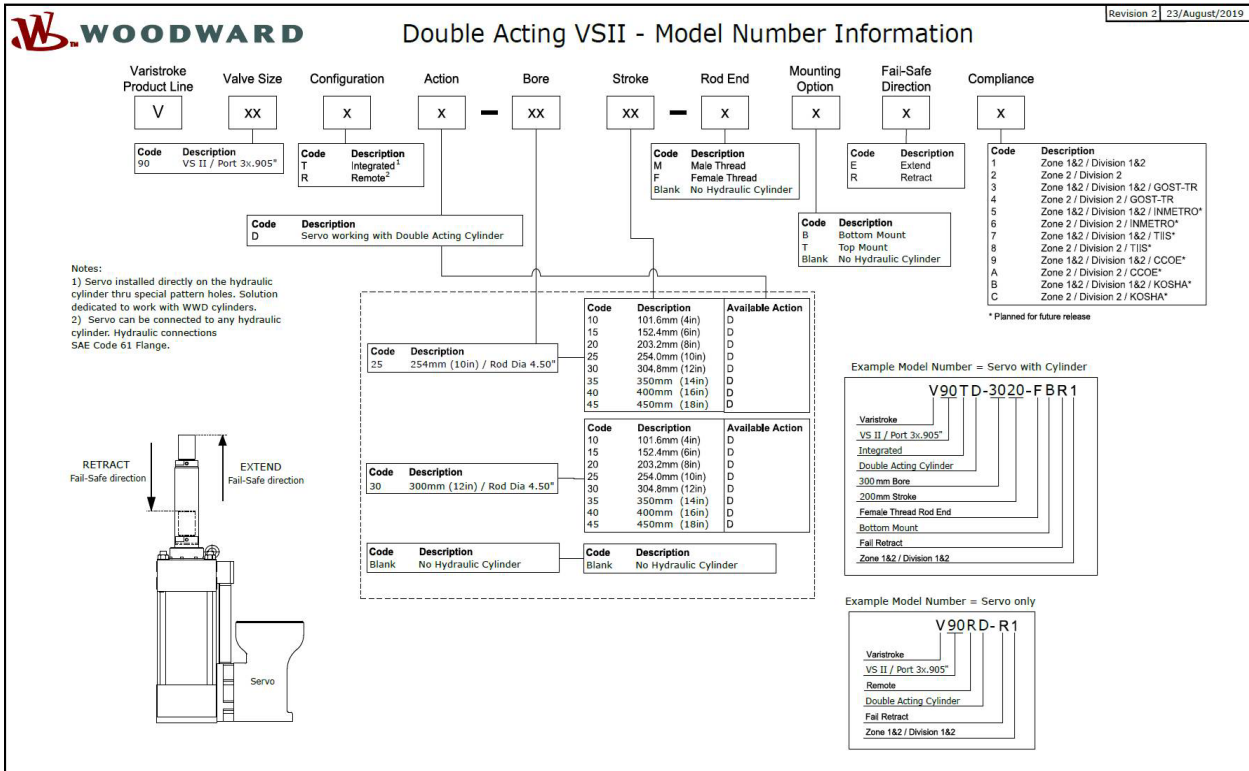


Figure 5-3. Double Acting VariStroke II Model Number Information

Table O. Currently Active VS-I &amp; GI Actuator Models

<b>Currently Active VariStroke-1 &amp; GI Models</b>				
<b>Description</b>	<b>External Model Number</b>	<b>Operating Action</b>	<b>Cylinder Return (pounds)</b>	<b>Part Number</b>
ACTUATOR	V45TD-1007-MUEXM-X-S-X	Double Acting	None	9907-1726
ACTUATOR	V45TD-1010-FUEXM-X-S-X	Double Acting	None	9907-1472
ACTUATOR	V45TD-1010-MUEXM-X-S-X	Double Acting	None	9907-1729
ACTUATOR	V45TD-1010-MURXM-X-S-X	Double Acting	None	9907-1350
ACTUATOR	V45TD-1015-MUEXM-X-S-X	Double Acting	None	9907-1730
ACTUATOR	V45TD-1015-MURXM-X-S-X	Double Acting	None	9907-1728
ACTUATOR	V45TD-1020-MURXM-X-S-X	Double Acting	None	9907-2142
ACTUATOR	V45TD-1207-FUEXM-X-S-X	Double Acting	None	9907-1756
ACTUATOR	V45TD-1207-MUEXM-X-S-X	Double Acting	None	9907-1748
ACTUATOR	V45TD-1207-MURXM-X-S-X	Double Acting	None	9907-1752
ACTUATOR	V45TD-1210-FUEXM-X-S-X	Double Acting	None	9907-1757
ACTUATOR	V45TD-1210-MUEXM-X-S-X	Double Acting	None	9907-1749
ACTUATOR	V45TD-1210-MURXM-X-S-X	Double Acting	None	9907-1753
ACTUATOR	V45TD-1215-FUEXM-X-S-X	Double Acting	None	9907-1758
ACTUATOR	V45TD-1215-MURXM-X-S-X	Double Acting	None	9907-1754
ACTUATOR	V45TD-1505-MUEXM-X-S-X	Double Acting	None	9907-1488
ACTUATOR	V45TD-1505-MURXM-X-C-X	Double Acting	None	9907-2026
ACTUATOR	V45TD-1505-MURXM-X-S-X	Double Acting	None	9907-1475
ACTUATOR	V45TD-1507-FUEXM-X-S-X	Double Acting	None	9907-1493
ACTUATOR	V45TD-1507-FURXM-X-S-X	Double Acting	None	9907-1494
ACTUATOR	V45TD-1507-MUEXM-X-S-X	Double Acting	None	9907-1491
ACTUATOR	V45TD-1507-MURXM-X-S-X	Double Acting	None	9907-1492
ACTUATOR	V45TD-1510-FUEXM-X-C-X	Double Acting	None	9907-2022
ACTUATOR	V45TD-1510-FUEXM-X-S-X	Double Acting	None	9907-1374
ACTUATOR	V45TD-1510-FURXM-X-S-X	Double Acting	None	9907-1314
ACTUATOR	V45TD-1510-MUEXM-X-S-X	Double Acting	None	9907-1317
ACTUATOR	V45TD-1510-MURXM-X-S-X	Double Acting	None	9907-1316
ACTUATOR	V45TD-1515-FUEXM-X-S-X	Double Acting	None	9907-1337
ACTUATOR	V45TD-1515-FURXM-X-S-X	Double Acting	None	9907-1375
ACTUATOR	V45TD-1515-MUEXM-X-S-X	Double Acting	None	9907-1313
ACTUATOR	V45TD-1515-MURXM-X-S-X	Double Acting	None	9907-1315
ACTUATOR	V45TD-1520-FURXM-X-S-X	Double Acting	None	9907-1378
ACTUATOR	V45TD-1520-MUEXM-X-S-X	Double Acting	None	9907-1352
ACTUATOR	V45TD-1520-MURXM-X-S-X	Double Acting	None	9907-1312
ACTUATOR	V45TD-1525-MURXM-X-S-X	Double Acting	None	9907-1380
ACTUATOR	V45TD-1530-FURXM-X-S-X	Double Acting	None	9907-1386
ACTUATOR	V45TD-1530-MURXM-X-S-X	Double Acting	None	9907-1384
ACTUATOR	V45TD-2005-MURXM-X-S-X	Double Acting	None	9907-2323
ACTUATOR	V45TD-2010-FUEXM-X-S-X	Double Acting	None	9907-1365
ACTUATOR	V45TD-2010-FURXM-X-S-X	Double Acting	None	9907-1366
ACTUATOR	V45TD-2010-MUEXM-X-S-X	Double Acting	None	9907-1318
ACTUATOR	V45TD-2010-MURXM-X-S-X	Double Acting	None	9907-1324

ACTUATOR	V45TD-2015-FUEXM-X-S-X	Double Acting	None	9907-1338
ACTUATOR	V45TD-2015-FURXM-X-S-X	Double Acting	None	9907-1339
ACTUATOR	V45TD-2015-MUEXM-X-S-X	Double Acting	None	9907-1321
ACTUATOR	V45TD-2015-MURXM-X-S-X	Double Acting	None	9907-1325
ACTUATOR	V45TD-2020-FUEXM-X-S-X	Double Acting	None	9907-1326
ACTUATOR	V45TD-2020-FURXM-X-S-X	Double Acting	None	9907-1367
ACTUATOR	V45TD-2020-MUEXM-X-S-X	Double Acting	None	9907-1322
ACTUATOR	V45TD-2020-MURXM-X-S-X	Double Acting	None	9907-1319
ACTUATOR	V45TD-2025-FURXM-X-S-X	Double Acting	None	9907-1370
ACTUATOR	V45TD-2025-MUEXM-X-S-X	Double Acting	None	9907-1368
ACTUATOR	V45TD-2025-MURXM-X-C-X	Double Acting	None	9907-2066
ACTUATOR	V45TD-2025-MURXM-X-S-X	Double Acting	None	9907-1320
ACTUATOR	V45TD-2025-MUE-DV0, FA	Double Acting	None	9907-1993
ACTUATOR	V45TD-2030-FURXM-X-S-X	Double Acting	None	9907-1373
ACTUATOR	V45TD-2030-MUEXM-X-S-X	Double Acting	None	9907-1371
ACTUATOR	V45TD-2030-MURXM-X-S-X	Double Acting	None	9907-1323
ACTUATOR	V45TD-2510-FUEXM-X-S-X	Double Acting	None	9907-1353
ACTUATOR	V45TD-2510-FURXM-X-S-X	Double Acting	None	9907-1354
ACTUATOR	V45TD-2510-MUEXM-X-S-X	Double Acting	None	9907-1330
ACTUATOR	V45TD-2510-MURXM-X-S-X	Double Acting	None	9907-1331
ACTUATOR	V45TD-2515-FUEXM-X-S-X	Double Acting	None	9907-1355
ACTUATOR	V45TD-2515-MUEXM-X-S-X	Double Acting	None	9907-1329
ACTUATOR	V45TD-2515-MURXM-X-S-X	Double Acting	None	9907-1327
ACTUATOR	V45TD-2520-FUEXM-X-S-X	Double Acting	None	9907-1332
ACTUATOR	V45TD-2520-FURXM-X-S-X	Double Acting	None	9907-1357
ACTUATOR	V45TD-2520-MUEXM-X-C-X	Double Acting	None	9907-2094
ACTUATOR	V45TD-2520-MUEXM-X-S-X	Double Acting	None	9907-1342
ACTUATOR	V45TD-2520-MURXM-X-S-X	Double Acting	None	9907-1328
ACTUATOR	V45TD-2525-FUEXM-X-S-X	Double Acting	None	9907-1359
ACTUATOR	V45TD-2525-FURXM-X-S-X	Double Acting	None	9907-1360
ACTUATOR	V45TD-2525-MUEXM-X-S-X	Double Acting	None	9907-1343
ACTUATOR	V45TD-2525-MURXM-X-S-X	Double Acting	None	9907-1358
ACTUATOR	V45TD-2530-FURXM-X-S-X	Double Acting	None	9907-1364
ACTUATOR	V45TD-2530-MUEXM-X-S-X	Double Acting	None	9907-1361
ACTUATOR	V45TD-2530-MURXM-X-S-X	Double Acting	None	9907-1362
ACTUATOR	V45TD-2520-FURXM-X-C-X	Double Acting	None	9907-2023
ACTUATOR	V45TS-1010-FUEXM-X-S-X	Double Acting	56 – 112	9907-1607
ACTUATOR	V45TS-1010-FURXM-X-S-X	Double Acting	56 – 112	9907-1609
ACTUATOR	V45TS-1010-MUEXM-X-S-X	Double Acting	56 – 112	9907-1552
ACTUATOR	V45TS-1010-MURXM-X-S-X	Double Acting	56 – 112	9907-1608
ACTUATOR	V45TS-1507-FUEXM-X-S-X	Double Acting	108 – 216	9907-1684
ACTUATOR	V45TS-1507-FURXM-X-S-X	Double Acting	108 – 216	9907-1696
ACTUATOR	V45TS-1507-MUEXM-X-S-X	Double Acting	108 – 216	9907-1678
ACTUATOR	V45TS-1507-MURXM-X-S-X	Double Acting	108 – 216	9907-1690
ACTUATOR	V45TS-1510-FUEXM-X-S-X	Double Acting	108 – 216	9907-1687
ACTUATOR	V45TS-1510-FURXM-X-S-X	Double Acting	108 – 216	9907-1699

ACTUATOR	V45TS-1510-MUEXM-X-S-X	Double Acting	108 – 216	9907-1681
ACTUATOR	V45TS-1510-MURXM-X-S-X	Double Acting	108 – 216	9907-1693
ACTUATOR	V45TS-2007-FUEXM-X-S-X	Double Acting	262 – 524	9907-1655
ACTUATOR	V45TS-2007-FURXM-X-S-X	Double Acting	262 – 524	9907-1670
ACTUATOR	V45TS-2007-MUEXM-X-S-X	Double Acting	262 – 524	9907-1597
ACTUATOR	V45TS-2007-MURXM-X-S-X	Double Acting	262 – 524	9907-1663
ACTUATOR	V45TS-2010-FUEXM-X-S-X	Double Acting	262 – 524	9907-1659
ACTUATOR	V45TS-2010-FURXM-X-S-X	Double Acting	262 – 524	9907-1674
ACTUATOR	V45TS-2010-MUEXM-X-S-X	Double Acting	262 – 524	9907-1652
ACTUATOR	V45TS-2010-MURXM-X-S-X	Double Acting	262 – 524	9907-1667
ACTUATOR	V45TS-2510-FUEXM-X-S-X	Double Acting	354 – 708	9907-1634
ACTUATOR	V45TS-2510-FURXM-X-S-X	Double Acting	354 – 708	9907-1642
ACTUATOR	V45TS-2510-MUEXM-X-S-X	Double Acting	354 – 708	9907-1630
ACTUATOR	V45TS-2510-MURXM-X-S-X	Double Acting	354 – 708	9907-1638
ACTUATOR	V45TS-2515-FUEXM-X-S-X	Double Acting	354 – 708	9907-2073
ACTUATOR	V45TS-2515-FURXM-X-S-X	Double Acting	354 – 708	9907-2074
ACTUATOR	V45TS-2515-MUEXM-X-S-X	Double Acting	354 – 708	9907-1999
ACTUATOR	V45TS-2515-MURXM-X-S-X	Double Acting	354 - 708	9907-2075
ACTUATOR	V45TT-1010-FUEXM-X-S-X	Double Acting	114 – 226	9907-1612
ACTUATOR	V45TT-1010-FURXM-X-S-X	Double Acting	114 – 226	9907-1616
ACTUATOR	V45TT-1010-MUEXM-X-S-X	Double Acting	114 – 226	9907-1610
ACTUATOR	V45TT-1010-MURXM-X-S-X	Double Acting	114 – 226	9907-1614
ACTUATOR	V45TT-1507-FUEXM-X-S-X	Double Acting	235 – 471	9907-1685
ACTUATOR	V45TT-1507-FURXM-X-S-X	Double Acting	235 – 471	9907-1697
ACTUATOR	V45TT-1507-MUEXM-X-S-X	Double Acting	235 – 471	9907-1679
ACTUATOR	V45TT-1507-MURXM-X-S-X	Double Acting	235 – 471	9907-1691
ACTUATOR	V45TT-1510-FUEXM-X-S-X	Double Acting	235 – 471	9907-1688
ACTUATOR	V45TT-1510-FURXM-X-S-X	Double Acting	235 – 471	9907-1700
ACTUATOR	V45TT-1510-MUEXM-X-S-X	Double Acting	235 – 471	9907-1682
ACTUATOR	V45TT-1510-MURXM-X-S-X	Double Acting	235 – 471	9907-1694
ACTUATOR	V45TT-2007-FUEXM-X-S-X	Double Acting	528 – 1057	9907-1656
ACTUATOR	V45TT-2007-FURXM-X-S-X	Double Acting	528 – 1057	9907-1671
ACTUATOR	V45TT-2007-MUEXM-X-S-X	Double Acting	528 – 1057	9907-1602
ACTUATOR	V45TT-2007-MURXM-X-S-X	Double Acting	528 – 1057	9907-1664
ACTUATOR	V45TT-2010-FUEXM-X-S-X	Double Acting	528 – 1057	9907-1660
ACTUATOR	V45TT-2010-FURXM-X-S-X	Double Acting	528 – 1057	9907-1675
ACTUATOR	V45TT-2010-MUEXM-X-S-X	Double Acting	528 – 1057	9907-1653
ACTUATOR	V45TT-2010-MURXM-X-S-X	Double Acting	528 – 1057	9907-1668
ACTUATOR	V45TT-2015-MUEXM-X-S-X	Double Acting	528 – 1057	9907-2128
ACTUATOR	V45TT-2015-MURXM-X-S-X	Double Acting	528 – 1057	9907-2107
ACTUATOR	V45TT-2510-FUEXM-X-S-X	Double Acting	642 – 1286	9907-1635
ACTUATOR	V45TT-2510-FURXM-X-S-X	Double Acting	642 – 1286	9907-1643
ACTUATOR	V45TT-2510-MUEXM-X-S-X	Double Acting	642 – 1286	9907-1631
ACTUATOR	V45TT-2510-MURXM-X-S-X	Double Acting	642 – 1286	9907-1639
ACTUATOR	V45TT-2515-FUEXM-X-S-X	Double Acting	642 – 1286	9907-2076
ACTUATOR	V45TT-2515-FURXM-X-S-X	Double Acting	642 – 1286	9907-2077

ACTUATOR	V45TT-2515-MUEXM-X-S-X	Double Acting	642 – 1286	9907-2013
ACTUATOR	V45TT-2515-MURXM-X-S-X	Double Acting	642 – 1286	9907-2017
ACTUATOR	V45TU-1010-FUEXM-X-S-X	Double Acting	224 - 478	9907-1613
ACTUATOR	V45TU-1010-FURXM-X-S-X	Double Acting	224 – 478	9907-1617
ACTUATOR	V45TU-1010-MUEXM-X-S-X	Double Acting	224 – 478	9907-1611
ACTUATOR	V45TU-1010-MURXM-X-S-X	Double Acting	224 – 478	9907-1615
ACTUATOR	V45TU-1507-FUEXM-X-S-X	Double Acting	520 – 1040	9907-1686
ACTUATOR	V45TU-1507-FURXM-X-S-X	Double Acting	520 – 1040	9907-1698
ACTUATOR	V45TU-1507-MUEXM-X-S-X	Double Acting	520 – 1040	9907-1680
ACTUATOR	V45TU-1507-MURXM-X-S-X	Double Acting	520 – 1040	9907-1692
ACTUATOR	V45TU-1510-FUEXM-X-S-X	Double Acting	520 – 1040	9907-1689
ACTUATOR	V45TU-1510-FURXM-X-S-X	Double Acting	520 – 1040	9907-1701
ACTUATOR	V45TU-1510-MUEXM-X-S-X	Double Acting	520 – 1040	9907-1683
ACTUATOR	V45TU-1510-MURXM-X-S-X	Double Acting	520 – 1040	9907-1695
ACTUATOR	V45TU-1515- FUEXM-X-S-X	Double Acting	500 – 1060	9907-2443
ACTUATOR	V45TU-1515-MURXM-X-S-X	Double Acting	500 – 1060	9907-2140
ACTUATOR	V45TU-2007-FUEXM-X-S-X	Double Acting	1052 – 2104	9907-1657
ACTUATOR	V45TU-2007-FURXM-X-S-X	Double Acting	1052 – 2104	9907-1672
ACTUATOR	V45TU-2007-MUEXM-X-S-X	Double Acting	1052 – 2104	9907-1598
ACTUATOR	V45TU-2007-MURXM-X-S-X	Double Acting	1052 – 2104	9907-1665
ACTUATOR	V45TU-2010-FUEXM-X-S-X	Double Acting	1052 – 2104	9907-1661
ACTUATOR	V45TU-2010-FURXM-X-S-X	Double Acting	1052 – 2104	9907-1676
ACTUATOR	V45TU-2010-MUEXM-X-S-X	Double Acting	1052 – 2104	9907-1654
ACTUATOR	V45TU-2010-MURXM-X-S-X	Double Acting	1052 – 2104	9907-1669
ACTUATOR	V45TU-2015-MUEXM-X-S-X	Double Acting	1004 – 2104	9907-2126
ACTUATOR	V45TU-2015-MURXM-X-C-X	Double Acting	1004 – 2104	9907-2473
ACTUATOR	V45TU-2015-MURXM-X-S-X	Double Acting	1004 – 2104	9907-1989
ACTUATOR	V45TU-2510-FUEXM-X-S-X	Double Acting	1312 – 2623	9907-1636
ACTUATOR	V45TU-2510-FURXM-X-S-X	Double Acting	1312 – 2623	9907-1644
ACTUATOR	V45TU-2510-MUEXM-X-S-X	Double Acting	1312 – 2623	9907-1632
ACTUATOR	V45TU-2510-MURXM-X-S-X	Double Acting	1312 – 2623	9907-1640
ACTUATOR	V45TU-2515-FUEXM-X-S-X	Double Acting	1312 – 2623	9907-2078
ACTUATOR	V45TU-2515-FURXM-X-S-X	Double Acting	1312 – 2623	9907-2080
ACTUATOR	V45TU-2515-MUEXM-X-S-X	Double Acting	1312 - 2623	9907-2079
ACTUATOR	V45TU-2515-MURXM-X-S-X	Double Acting	1312 - 2623	9907-2081
ACTUATOR	V45TU-2515-MURXM-X-S-X	Double Acting	1312 – 2623	9907-2110
ACTUATOR	V45TV-2007-FUEXM-X-S-X	Double Acting	1946 – 4046	9907-1658
ACTUATOR	V45TV-2007-FURXM-X-S-X	Double Acting	1946 – 4046	9907-1673
ACTUATOR	V45TV-2007-MUEXM-X-S-X	Double Acting	1946 – 4046	9907-1651
ACTUATOR	V45TV-2007-MURXM-X-S-X	Double Acting	1946 – 4046	9907-1666
ACTUATOR	V45TV-2010-FUEXM-X-S-X	Double Acting	2023 – 4046	9907-1662
ACTUATOR	V45TV-2010-FURXM-X-S-X	Double Acting	2023 – 4046	9907-1677
ACTUATOR	V45TV-2010-MUEXM-X-S-X	Double Acting	2023 – 4046	9907-1478
ACTUATOR	V45TV-2010-MURXM-X-S-X	Double Acting	2023 – 4046	9907-1606
ACTUATOR	V45TV-2510-FUEXM-X-S-X	Double Acting	2744 – 5488	9907-1637
ACTUATOR	V45TV-2510-FURXM-X-S-X	Double Acting	2744 – 5488	9907-1645

ACTUATOR	V45TV-2510-MUEXM-X-S-X	Double Acting	2744 – 5488	9907-1633
ACTUATOR	V45TV-2510-MURXM-X-S-X	Double Acting	2744 – 5488	9907-1641
ACTUATOR	V45TV-2515-FUEXM-X-S-X	Double Acting	2744 – 5488	9907-2082
ACTUATOR	V45TV-2515-FURXM-X-S-X	Double Acting	2744 – 5488	9907-2084
ACTUATOR	V45TV-2515-MUEXM-X-S-X	Double Acting	2744 – 5488	9907-2083
ACTUATOR	V45TV-2515-MURXM-X-S-X	Double Acting	2744 – 5488	9907-2085
ACTUATOR w/REMOTE SERVO	V45RD-1505-FUEXM-X-S-X	Double Acting	None	9907-1486
ACTUATOR w/REMOTE SERVO	V45RD-1505-MUEXM-X-S-X	Double Acting	None	9907-1484
ACTUATOR w/REMOTE SERVO	V45RD-1507-MUEXM-X-S-X	Double Acting	None	9907-1480
ACTUATOR w/REMOTE SERVO	V45RD-1510-FURXM-X-S-X	Double Acting	None	9907-1428
ACTUATOR w/REMOTE SERVO	V45RD-1510-MUEXM-X-S-X	Double Acting	None	9907-1425
ACTUATOR w/REMOTE SERVO	V45RD-1515-FUEXM-X-S-X	Double Acting	None	9907-1431
ACTUATOR w/REMOTE SERVO	V45RD-1515-FURXM-X-S-X	Double Acting	None	9907-1432
ACTUATOR w/REMOTE SERVO	V45RD-1515-MUEXM-X-S-X	Double Acting	None	9907-1429
ACTUATOR w/REMOTE SERVO	V45RD-1515-MURXM-X-S-X	Double Acting	None	9907-1430
ACTUATOR w/REMOTE SERVO	V45RD-2005-MURXM-X-S-X	Double Acting	None	9907-2322
ACTUATOR w/REMOTE SERVO	V45RD-2007-FUEXM-X-C-X	Double Acting	None	9907-2466
ACTUATOR w/REMOTE SERVO	V45RD-2007-MURXM-X-S-X	Double Acting	None	9907-2358
ACTUATOR w/REMOTE SERVO	V45RD-2015-FUEXM-X-S-X	Double Acting	None	9907-1391
ACTUATOR w/REMOTE SERVO	V45RD-2015-MURXM-X-S-X	Double Acting	None	9907-1390
ACTUATOR w/REMOTE SERVO	V45RD-2020-FUEXM-X-C-X	Double Acting	None	9907-2466
ACTUATOR w/REMOTE SERVO	V45RD-2020-MUEXM-X-C-X	Double Acting	None	9907-2465
ACTUATOR w/REMOTE SERVO	V45RD-2020-MURXM-X-S-X	Double Acting	None	9907-1394
ACTUATOR w/REMOTE SERVO	V45RD-2025-MUEXM-X-S-X	Double Acting	None	9907-1397
ACTUATOR w/REMOTE SERVO	V45RD-2510-MUEXM-X-S-X	Double Acting	None	9907-1405
ACTUATOR w/REMOTE SERVO	V45RD-2510-MURXM-X-S-X	Double Acting	None	9907-1406
ACTUATOR w/REMOTE SERVO	V45RD-2515-FUEXM-X-S-X	Double Acting	None	9907-1411
ACTUATOR w/REMOTE SERVO	V45RD-2515-MURXM-X-S-X	Double Acting	None	9907-1410
ACTUATOR w/REMOTE SERVO	V45RD-2525-FURXM-X-S-X	Double Acting	None	9907-1420
ACTUATOR w/REMOTE SERVO	V45RD-2530-MURXM-X-S-X	Double Acting	None	9907-1422
ACTUATOR w/REMOTE SERVO	V45RT-2007-FUEXM-X-S-X	Double Acting	528 - 1057	9907-1574
ACTUATOR w/REMOTE SERVO	V45RV-2510-FUEXM-X-S-X	Double Acting	2744 - 5488	9907-1557
POWER CYLINDER	VXXRD-1507-FURXM-X-S-X	Double Acting	None	9907-2152
POWER CYLINDER	VXXRD-1510-MURXM-X-S-X	Double Acting	None	9907-2138

POWER CYLINDER	VXXRD-1520-MURXM-X-S-X	Double Acting	None	9907-2137
POWER CYLINDER	VXXRD-1530-MURXM-X-S-X	Double Acting	None	9907-2470
POWER CYLINDER	VXXRD-2010-MUEXM-X-S-X	Double Acting	None	9907-2471
POWER CYLINDER	VXXRD-2030-MURXM-X-S-X	Double Acting	None	9907-2136
POWER CYLINDER	VXXRD-2530-MUEXM-X-S-X	Double Acting	None	9907-2146
POWER CYLINDER	VXXRD-2530-MURXM-X-S-X	Double Acting	None	9907-2458
POWER CYLINDER	VXXTD-2010-MUEXM-X-S-X	Double Acting	None	9907-2141
POWER CYLINDER	VXXRT-1510-MUEXM-X-S-X	Double Acting	235 - 471	9907-2472
POWER CYLINDER	VXXRT-2010-MUEXM-X-S-X	Double Acting	528 – 1057	9907-2457
POWER CYLINDER	VXXRT-2015-MUEXM-X-S-X	Double Acting	528 – 1057	9907-2139
POWER CYLINDER	VXXRU-1510-FUEXM-X-S-X	Double Acting	520 - 1040	9907-2153
POWER CYLINDER	VXXRU-2015-MURXM-X-S-X	Double Acting	1004 - 2104	9907-2144
POWER CYLINDER	VXXRU-2510-MURXM-X-S-X	Double Acting	1312 - 2623	9907-2145
POWER CYLINDER	VXXRU-2515-MURXM-X-S-X	Double Acting	1312 - 2623	9907-2148
POWER CYLINDER	VXXRV-2515-MUEXM-X-S-X	Double Acting	2744 - 5488	9907-2147
ACTUATOR	V45TG-1507-MUEXM-D-S-X	Single Acting	None	9907-2212
ACTUATOR	V45TG-1507-MUEXM-T-S-X	Single Acting	None	9907-2301
ACTUATOR	V45TG-1507-MUEXM-P-S-X	Single Acting	None	9907-2211
ACTUATOR	V45TG-1507-MUEXM-U-S-X	Single Acting	None	9907-2302
ACTUATOR	V45TG-1507-MUEXM-W-S-X	Single Acting	None	9907-2303
ACTUATOR	V45TG-1507-MUEXM-X-S-X	Single Acting	None	9907-2210
ACTUATOR	V45TG-1507-MURXM-D-S-X	Single Acting	None	9907-2215
ACTUATOR	V45TG-1507-MURXM-P-S-X	Single Acting	None	9907-2214
ACTUATOR	V45TG-1507-MURXM-X-S-X	Single Acting	None	9907-2213
ACTUATOR	V45TG-1510-MUEXM-T-S-X	Single Acting	None	9907-2307
ACTUATOR	V45TG-1510-MUEXM-X-S-X	Single Acting	None	9907-2222
ACTUATOR	V45TG-1510-MURXM-X-S-X	Single Acting	None	9907-2223
ACTUATOR	V45TG-1515-MUEXM-T-S-X	Single Acting	None	9907-2309
ACTUATOR	V45TG-1515-MUEXM-X-S-X	Single Acting	None	9907-2226
ACTUATOR	V45TG-1515-MURXM-X-S-X	Single Acting	None	9907-2227
ACTUATOR	V45TG-1520-MUEXM-D-S-X	Single Acting	None	9907-2228
ACTUATOR	V45TG-1520-MUEXM-X-S-X	Single Acting	None	9907-2269
ACTUATOR	V45TG-1520-MURXM-D-S-X	Single Acting	None	9907-2229
ACTUATOR	V45TG-1520-MURXM-P-S-X	Single Acting	None	9907-2236
ACTUATOR	V45TG-1520-MURXM-X-S-X	Single Acting	None	9907-2234
ACTUATOR	V45TG-1525-MUEXM-D-S-X	Single Acting	None	9907-2230
ACTUATOR	V45TG-1525-MURXM-D-S-X	Single Acting	None	9907-2231
ACTUATOR	V45TG-1530-MUEXM-D-S-X	Single Acting	None	9907-2232
ACTUATOR	V45TG-1530-MURXM-D-S-X	Single Acting	None	9907-2233
ACTUATOR	V45TG-1530-MURXM-X-S-X	Single Acting	None	9907-2238
ACTUATOR	V45TG-2007-MUEXM-D-S-X	Single Acting	None	9907-2245
ACTUATOR	V45TG-2007-MUEXM-P-S-X	Single Acting	None	9907-2247
ACTUATOR	V45TG-2007-MUEXM-T-S-X	Single Acting	None	9907-2310
ACTUATOR	V45TG-2007-MUEXM-U-S-X	Single Acting	None	9907-2311
ACTUATOR	V45TG-2007-MUEXM-W-S-X	Single Acting	None	9907-2312
ACTUATOR	V45TG-2007-MUEXM-X-S-X	Single Acting	None	9907-2246

ACTUATOR	V45TG-2007-MURXM-D-S-X	Single Acting	None	9907-2250
ACTUATOR	V45TG-2007-MURXM-P-S-X	Single Acting	None	9907-2249
ACTUATOR	V45TG-2007-MURXM-X-S-X	Single Acting	None	9907-2248
ACTUATOR	V45TG-2015-MUEXM-D-S-X	Single Acting	None	9907-2257
ACTUATOR	V45TG-2015-MUEXM-W-S-X	Single Acting	None	9907-2313
ACTUATOR	V45TG-2015-MURXM-D-S-X	Single Acting	None	9907-2258
ACTUATOR	V45TG-2015-MURXM-W-S-X	Single Acting	None	9907-2314
ACTUATOR	V45TG-2020-MUEXM-D-S-X	Single Acting	None	9907-2261
ACTUATOR	V45TG-2020-MURXM-D-S-X	Single Acting	None	9907-2262
ACTUATOR	V45TG-2025-MUEXM-D-S-X	Single Acting	None	9907-2263
ACTUATOR	V45TG-2025-MURXM-D-S-X	Single Acting	None	9907-2264
ACTUATOR	V45TG-2030-MUEXM-D-S-X	Single Acting	None	9907-2266
ACTUATOR	V45TG-2030-MUEXM-X-S-X	Single Acting	None	9907-1992
ACTUATOR	V45TG-2030-MURXM-D-S-X	Single Acting	None	9907-2268
ACTUATOR	V45TG-2507-MUEXM-T-S-X	Single Acting	None	9907-2315
ACTUATOR	V45TG-2507-MUEXM-U-S-X	Single Acting	None	9907-2316
ACTUATOR	V45TG-2507-MUEXM-W-S-X	Single Acting	None	9907-2317
ACTUATOR	V45TG-2507-MUEXM-X-S-X	Single Acting	None	9907-2271
ACTUATOR	V45TG-2507-MUEXM-P-S-X	Single Acting	None	9907-2272
ACTUATOR	V45TG-2507-MURXM-P-S-X	Single Acting	None	9907-2275
ACTUATOR	V45TG-2507-MURXM-D-S-X	Single Acting	None	9907-2276
ACTUATOR	V45TG-2507-MURXM-X-S-X	Single Acting	None	9907-2274
ACTUATOR	V45TG-2510-MUEXM-X-S-X	Single Acting	None	9907-2283
ACTUATOR	V45TG-2510-MUEXM-T-S-X	Single Acting	None	9907-2321
ACTUATOR	V45TG-2525-MUEXM-D-S-X	Single Acting	None	9907-2286
ACTUATOR	V45TG-2525-MURXM-D-S-X	Single Acting	None	9907-2287
ACTUATOR	V45TK-2010-MUEXM-W-S-X	Single Acting	242 – 544	9907-2349
ACTUATOR	V45TK-2010-FUEXM-X-S-X	Single Acting	242 – 544	9907-2467
ACTUATOR	V45TL-1515-FUEXM-P-S-X	Single Acting	215 – 491	9907-2442
ACTUATOR	V45TL-2007-MUEXM-X-S-X	Single Acting	528 – 1057	9907-2291
ACTUATOR	V45TL-2007-MURXM-X-S-X	Single Acting	528 – 1057	9907-2290
ACTUATOR	V45TM-1507-MUEXM-D-S-X	Single Acting	520 – 1040	9907-2218
ACTUATOR	V45TM-1507-MUEXM-P-S-X	Single Acting	520 – 1040	9907-2217
ACTUATOR	V45TM-1507-MUEXM-T-S-X	Single Acting	520 – 1040	9907-2304
ACTUATOR	V45TM-1507-MUEXM-U-S-X	Single Acting	520 – 1040	9907-2305
ACTUATOR	V45TM-1507-MUEXM-W-S-X	Single Acting	520 – 1040	9907-2306
ACTUATOR	V45TM-1507-MUEXM-X-S-X	Single Acting	520 – 1040	9907-2216
ACTUATOR	V45TM-1507-MURXM-D-S-X	Single Acting	520 – 1040	9907-2221
ACTUATOR	V45TM-1507-MURXM-P-S-X	Single Acting	520 – 1040	9907-2220
ACTUATOR	V45TM-1507-MURXM-X-S-X	Single Acting	520 – 1040	9907-2219
ACTUATOR	V45TM-1510-MUEXM-T-S-X	Single Acting	520 – 1040	9907-2308
ACTUATOR	V45TM-1510-MUEXM-X-S-X	Single Acting	520 – 1040	9907-2224
ACTUATOR	V45TM-1510-MURXM-X-S-X	Single Acting	520 – 1040	9907-2225
ACTUATOR	V45TM-1520-MUEXM-D-S-X	Single Acting	450 – 1110	9907-2235
ACTUATOR	V45TM-1520-MURXM-D-S-X	Single Acting	450 – 1110	9907-2237
ACTUATOR	V45TM-2007-MUEXM-D-S-X	Single Acting	1052 – 2104	9907-2253



ACTUATOR	V45TM-2007-MUEXM-P-S-X	Single Acting	1052 – 2104	9907-2252
ACTUATOR	V45TM-2007-MUEXM-P-S-X	Single Acting	1052 – 2104	9907-2351
ACTUATOR	V45TM-2007-MUEXM-X-S-X	Single Acting	1052 – 2104	9907-2251
ACTUATOR	V45TM-2007-MURXM-P-S-X	Single Acting	1052 – 2104	9907-2255
ACTUATOR	V45TM-2007-MURXM-D-S-X	Single Acting	1052 – 2104	9907-2256
ACTUATOR	V45TM-2007-MURXM-X-S-X	Single Acting	1052 – 2104	9907-2254
ACTUATOR	V45TM-2507-MUEXM-D-S-X	Single Acting	1312 – 2623	9907-2279
ACTUATOR	V45TM-2507-MUEXM-P-S-X	Single Acting	1312 – 2623	9907-2278
ACTUATOR	V45TM-2507-MUEXM-T-S-X	Single Acting	1312 – 2623	9907-2318
ACTUATOR	V45TM-2507-MUEXM-U-S-X	Single Acting	1312 – 2623	9907-2319
ACTUATOR	V45TM-2507-MUEXM-W-S-X	Single Acting	1312 – 2623	9907-2320
ACTUATOR	V45TM-2507-MUEXM-X-S-X	Single Acting	1312 – 2623	9907-2277
ACTUATOR	V45TM-2507-MURXM-P-S-X	Single Acting	1312 – 2623	9907-2281
ACTUATOR	V45TM-2507-MURXM-D-S-X	Single Acting	1312 – 2623	9907-2282
ACTUATOR	V45TM-2507-MURXM-X-S-X	Single Acting	1312 – 2623	9907-2280

Table P. VS-I, GI, DX Servos

<b>Currently Active VariStroke 1 Servos</b>			
<b>Description</b>	<b>External Model Number</b>	<b>Operating Action</b>	<b>Part Number</b>
SERVO	V45V-EXM-X-S-X	Double Acting	9907-1256
SERVO	V45V-RXM-X-S-X	Double Acting	9907-1333
SERVO	V45V-E-CRXM-X-S-X	Double Acting	9907-2113
SERVO	V45V-R-CRXM-X-S-X	Double Acting	9907-2112
SERVO	V45RG-EX-X-S-X	Single Acting	9907-2117
SERVO	V45RG-RX-X-S-X	Single Acting	9907-2116
SERVO	V45RG-EX-T-S-X, - TTV Logic	Single Acting	9907-2130
SERVO	V45RG-RX-T-S-X, - TTV Logic	Single Acting	9907-2131
SERVO	VS-DX SKID, J-BOX, FAIL EXTEND	Single Acting	8918-164
SERVO	VS-DX SKID, FAIL EXTEND	Single Acting	8918-165
SERVO	VS-DX SKID, J-BOX, FAIL RETRACT	Single Acting	8918-166
SERVO	VS-DX SKID, FAIL RETRACT	Single Acting	8918-167

Table Q. VS-I, -DX &amp; VS-II Spare Parts Kits

<b>VS-1 &amp; VS-II Spare Parts Kits</b>			
<b>Description</b>	<b>Detailed Description</b>	<b>Operating Action</b>	<b>Part Number</b>
Servo Replacement	V45TD-EX Servo – Integrated 4" & 5" Bore	Double Acting	9907-1452
Servo Replacement	V45TD-EX Servo – Integrated 6", 8", 10" Bore	Double Acting	9907-1335
Servo Replacement	V45TD-RX Servo – Integrated 4" & 5" Bore	Double Acting	9907-1453
Servo Replacement	V45TD-RX Servo – Integrated 6", 8", 10" Bore	Double Acting	9907-1336
Servo Replacement	V45TD-E-CR Servo, Fail Extend, Chemically Resistant	Double Acting	9907-2360
Servo Replacement	V45TD-R-CR Servo, Fail Retract, Chemically Resistant	Double Acting	9907-2361
Servo Replacement	V45VD-EX Servo – Remote, Fail Extend	Double Acting	9907-1256
Servo Replacement	V45VD-RX Servo – Remote, Fail Retract	Double Acting	9907-1333
Servo Replacement	V45V-E-CR Remote, Fail Extend, Chemically Resistant	Double Acting	9907-2113
Servo Replacement	V45V-R-CR Remote, Fail Retract, Chemically Resistant	Double Acting	9907-2112
Servo Replacement	V45RG-E Remote, Fail Extend, 6", 8", 10" Bore	Single Acting	9907-2117
Servo Replacement	V45RG-R Remote, Fail Retract, 6", 8", 10" Bore	Single Acting	9907-2116
Seals Kit	Bridge Manifold Seal Kit –4" & 5" Bore, Integrated	Double Acting	8923-2165
Seals Kit	Bridge Manifold Seal Kit –6", 8", 10" Bore, Integrated	Double Acting	8923-2068
Seals Kit	Bridge Manifold Seal Kit - 6", 8", 10" Bore, Integrated	Single Acting	8923-3021
Seals Kit	Cylinder Shaft Seal Kit - 4" Bore	Single & Double	8935-1216-10
Seals Kit	Cylinder Shaft Seal Kit - 5" Bore	Single & Double	8935-1216-12

Seals Kit	Cylinder Shaft Seal Kit - 6" Bore	Single & Double	8935-1216-15
Seals Kit	Cylinder Shaft Seal Kit - 8" Bore	Single & Double	8935-1216-20
Seals Kit	Cylinder Shaft Seal Kit - 10" Bore	Single & Double	8935-1216-25
Seals Kit	Cylinder Shaft Seal Kit - 6" Bore, Chemically Resistant	Single & Double	8935-1383-15
Seals Kit	Cylinder Shaft Seal Kit - 8" Bore, Chemically Resistant	Single & Double	8935-1383-20
Seals Kit	Cylinder Shaft Seal Kit - 10" Bore, Chemically Resistant	Single & Double	8935-1383-25
Spring Replacement	Torsional Spring Replacement – Fail Extend & Retract	Single & Double	8935-1216
VS-I Tool Kit	Tools/Sockets Kit - V1 Gland Seal Removal		8923-2508
VS-I Replacement Kit	KIT - VSI SERVO PLUGS, ZONE 1		8923-3203
DV Solenoid Replacement	Dump Valve Solenoid - Spare		8923-3024
DV Replacement Kit – Assembly #1	1.5" DV Block Assembly w/o Quill Tube & Drain Block		8923-3103
DV Replacement Kit – Assembly #1	2.0" DV Block Assembly w/o Quill Tube & Drain Block		8923-3104
DV Replacement Kit – Assembly #2	1.5" DV Assembly, Reference Stroke Length in Part Number		8935-1368-XX
DV Replacement Kit – Assembly #2	2.0" DV Assembly, Reference Stroke Length in Part Number		8935-1366-XX
VS-DX Replacement Kit	VS-DX Servo, Fail Extend, w/ Junction Box		8935-1341
VS-DX Replacement Kit	VS-DX Servo, Fail Extend, w/o Junction Box		8935-1340
VS-DX Replacement Kit	VS-DX Servo, Fail Retract, w/ Junction Box		8935-1343
VS-DX Replacement Kit	VS-DX Servo, Fail Retract, w/o Junction Box		8935-1342
VS-DX Replacement Kit	VS-DX Skid Isolation Valve, Right Hand		8935-1338
VS-DX Replacement Kit	VS-DX Skid Isolation Valve, Left Hand		8935-1339
VS-DX Replacement Kit	VS-DX Pressure Gauge		8935-1344
VS-DX Replacement Kit	VS-DX Shuttle Valve		8935-1336
VS-II Replacement Kit	Electronic DVP Driver		8923-2024
VS-II Replacement Kit	Bridge Manifold Seal Kit		8935-1230
VS-II Replacement Kit	Cylinder Shaft Seal Kit - 10" Bore		8923-2021
VS-II Replacement Kit	Cylinder Shaft Seal Kit - 12" Bore		8923-2022
VS-II Replacement Kit	LVDT - 4" Stroke Kit		8935-1223-10
VS-II Replacement Kit	LVDT - 6" Stroke Kit		8935-1223-15
VS-II Replacement Kit	LVDT - 8" Stroke Kit		8935-1223-20
VS-II Replacement Kit	LVDT - 10" Stroke Kit		8935-1223-25
VS-II Replacement Kit	LVDT - 12" Stroke Kit		8935-1223-30
VS-II Replacement Kit	LVDT - 14" Stroke Kit		8935-1223-35
VS-II Replacement Kit	LVDT - 16" Stroke Kit		8935-1223-40
VS-II Replacement Kit	LVDT - 18" Stroke Kit		8935-1223-45

Table R. Currently Active VS-II Actuator Models

<b>Currently Active VariStroke II Models</b>				
<b>Description</b>	<b>External Model Number</b>	<b>Operating Action</b>	<b>Cylinder Return (pounds)</b>	<b>Part Number</b>
ACTUATOR	V90TD-2520-FBE	Double Acting	None	9907-1261
ACTUATOR	V90TD-2520-FBE	Double Acting	None	9907-1998
ACTUATOR	V90TD-2520-MBR	Double Acting	None	9907-1866
ACTUATOR	V90TD-2530-MBE	Double Acting	None	9907-1282
ACTUATOR	V90TD-2530-MBR	Double Acting	None	9907-1262
ACTUATOR	V90TD-2530-MBR	Double Acting	None	9907-2109
ACTUATOR	V90TD-2540-MBE	Double Acting	None	9907-1781
ACTUATOR	V90TD-3020-FBE	Double Acting	None	9907-1827
ACTUATOR	V90TD-3020-MBE	Double Acting	None	9907-1263
ACTUATOR	V90TD-3020-MBR	Double Acting	None	9907-1784
ACTUATOR	V90TD-3025-FBE	Double Acting	None	9907-1547
ACTUATOR	V90TD-3025-FBR	Double Acting	None	9907-1821
ACTUATOR	V90TD-3025-MBE	Double Acting	None	9907-1499
ACTUATOR	V90TD-3025-MBR	Double Acting	None	9907-1818
ACTUATOR	V90TD-3030-FBE	Double Acting	None	9907-1815
ACTUATOR	V90TD-3030-FBR	Double Acting	None	9907-1814
ACTUATOR	V90TD-3030-MBE	Double Acting	None	9907-1283
ACTUATOR	V90TD-3030-MBR	Double Acting	None	9907-1811
ACTUATOR	V90TD-3035-FBE	Double Acting	None	9907-1822
ACTUATOR	V90TD-3035-FBR	Double Acting	None	9907-1808
ACTUATOR	V90TD-3035-MBE	Double Acting	None	9907-1537
ACTUATOR	V90TD-3035-MBR	Double Acting	None	9907-1805
ACTUATOR	V90TD-3040-FBE	Double Acting	None	9907-1802
ACTUATOR	V90TD-3040-FBR	Double Acting	None	9907-1801
ACTUATOR	V90TD-3040-MBE	Double Acting	None	9907-1798
ACTUATOR	V90TD-3040-MBR	Double Acting	None	9907-1797
ACTUATOR	V90TD-3045-FBE	Double Acting	None	9907-1794
ACTUATOR	V90TD-3045-FBR	Double Acting	None	9907-1793
ACTUATOR	V90TD-3045-MBE	Double Acting	None	9907-1790
ACTUATOR	V90TD-3045-MBR	Double Acting	None	9907-1789
ACTUATOR w/REMOTE SERVO	V90RD-2520-FBE	Double Acting	None	9907-1966
ACTUATOR w/REMOTE SERVO	V90RD-2520-FBR	Double Acting	None	9907-1965
ACTUATOR w/REMOTE SERVO	V90RD-2520-MBE	Double Acting	None	9907-1962
ACTUATOR w/REMOTE SERVO	V90RD-2520-MBR	Double Acting	None	9907-1961
ACTUATOR w/REMOTE SERVO	V90RD-2525-FBE	Double Acting	None	9907-1958
ACTUATOR w/REMOTE SERVO	V90RD-2525-FBR	Double Acting	None	9907-1957
ACTUATOR w/REMOTE SERVO	V90RD-2525-MBE	Double Acting	None	9907-1954
ACTUATOR w/REMOTE SERVO	V90RD-2525-MBR	Double Acting	None	9907-1953

ACTUATOR w/REMOTE SERVO	V90RD-2530-FBE	Double Acting	None	9907-1950
ACTUATOR w/REMOTE SERVO	V90RD-2530-FBR	Double Acting	None	9907-1949
ACTUATOR w/REMOTE SERVO	V90RD-2530-MBE	Double Acting	None	9907-1946
ACTUATOR w/REMOTE SERVO	V90RD-2530-MBR	Double Acting	None	9907-1945
ACTUATOR w/REMOTE SERVO	V90RD-2535-FBE	Double Acting	None	9907-1942
ACTUATOR w/REMOTE SERVO	V90RD-2535-FBR	Double Acting	None	9907-1941
ACTUATOR w/REMOTE SERVO	V90RD-2535-MBR	Double Acting	None	9907-1937
ACTUATOR w/REMOTE SERVO	V90RD-2535-MBE	Double Acting	None	9907-1938
ACTUATOR w/REMOTE SERVO	V90RD-2540-FBE	Double Acting	None	9907-1934
ACTUATOR w/REMOTE SERVO	V90RD-2540-FBR	Double Acting	None	9907-1933
ACTUATOR w/REMOTE SERVO	V90RD-2540-MBE	Double Acting	None	9907-1930
ACTUATOR w/REMOTE SERVO	V90RD-2540-MBR	Double Acting	None	9907-1929
ACTUATOR w/REMOTE SERVO	V90RD-2545-FBE	Double Acting	None	9907-1926
ACTUATOR w/REMOTE SERVO	V90RD-2545-FBR	Double Acting	None	9907-1925
ACTUATOR w/REMOTE SERVO	V90RD-2545-MBE	Double Acting	None	9907-1922
ACTUATOR w/REMOTE SERVO	V90RD-2545-MBR	Double Acting	None	9907-1921
ACTUATOR w/REMOTE SERVO	V90RD-3020-FBE	Double Acting	None	9907-1918
ACTUATOR w/REMOTE SERVO	V90RD-3020-FBR	Double Acting	None	9907-1917
ACTUATOR w/REMOTE SERVO	V90RD-3020-MBE	Double Acting	None	9907-1914
ACTUATOR w/REMOTE SERVO	V90RD-3020-MBR	Double Acting	None	9907-1913
ACTUATOR w/REMOTE SERVO	V90RD-3025-FBE	Double Acting	None	9907-1910
ACTUATOR w/REMOTE SERVO	V90RD-3025-FBR	Double Acting	None	9907-1909
ACTUATOR w/REMOTE SERVO	V90RD-3025-MBE	Double Acting	None	9907-1906
ACTUATOR w/REMOTE SERVO	V90RD-3025-MBR	Double Acting	None	9907-1905
ACTUATOR w/REMOTE SERVO	V90RD-3030-FBE	Double Acting	None	9907-1902
ACTUATOR w/REMOTE SERVO	V90RD-3030-FBR	Double Acting	None	9907-1901
ACTUATOR w/REMOTE SERVO	V90RD-3030-MBE	Double Acting	None	9907-1898
ACTUATOR w/REMOTE SERVO	V90RD-3030-MBE	Double Acting	None	9907-1898
ACTUATOR w/REMOTE SERVO	V90RD-3030-MBR	Double Acting	None	9907-1897
ACTUATOR w/REMOTE SERVO	V90RD-3035-FBE	Double Acting	None	9907-1894
ACTUATOR w/REMOTE SERVO	V90RD-3035-FBR	Double Acting	None	9907-1893

ACTUATOR w/REMOTE SERVO	V90RD-3035-MBE	Double Acting	None	9907-1890
ACTUATOR w/REMOTE SERVO	V90RD-3035-MBR	Double Acting	None	9907-1889
ACTUATOR w/REMOTE SERVO	V90RD-3040-FBE	Double Acting	None	9907-1886
ACTUATOR w/REMOTE SERVO	V90RD-3040-FBR	Double Acting	None	9907-1885
ACTUATOR w/REMOTE SERVO	V90RD-3040-MBE	Double Acting	None	9907-1882
ACTUATOR w/REMOTE SERVO	V90RD-3040-MBR	Double Acting	None	9907-1881
ACTUATOR w/REMOTE SERVO	V90RD-3045-FBE	Double Acting	None	9907-1878
ACTUATOR w/REMOTE SERVO	V90RD-3045-FBR	Double Acting	None	9907-1877
ACTUATOR w/REMOTE SERVO	V90RD-3045-MBE	Double Acting	None	9907-1874
ACTUATOR w/REMOTE SERVO	V90RD-3045-MBR	Double Acting	None	9907-1873
SERVO	V90V-EX	Double Acting	N/A	9907-1287
SERVO	V90V-RX	Double Acting	N/A	9907-1288

**UG25+ Governors for Steam Turbines**

Part Number



GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE LT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-122
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEYED DRIVE, .625 TERM SHAFTS, CCW ROT, OIL GAUGE RT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-123
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DRIVE, .625 TERM SHAFTS, CCW ROT, OIL GAUGE LT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-132
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE RT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-133
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEYED DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE RT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-134
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE LT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-135
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEYED DRIVE, .625 TERM SHAFTS, CCW ROT, OIL GAUGE RT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-136
GOVERNOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEYED DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE RT,W/O STOP BUTTON, FOR STEAM TURBINE	8528-137

\*Documentation: Product Spec: 03339, Manual: 26643

**UG25+ Actuators**

Part Number



ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, KEY DRIVE, .750 TERM SHAFTS, CW ROT, OIL GAUGE RT, MAN	8528-027
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ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, SERR DRIVE, .750 TERM SHAFTS, CCW ROT, OIL GAUGE RT, MAN	8528-028
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, KEY DRIVE, .750 TERM SHAFTS, CCW ROT, OIL GAUGE RT, MAN	8528-029
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, KEY DRIVE, .750 TERM SHAFTS, CCW ROT, OIL GAUGE LT	8528-033
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, KEY DRIVE, .750 TERM SHAFTS, CW ROT, OIL GAUGE RT	8528-300
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, KEY DR, .750 TERM SHAFT, CCW ROT, OILGA LT	8528-302
ACTUATOR - P3, UG-25+, 25 LB FT, .875 PUMP, KEY DR, .625 TERM SHAFT, CW ROT, OILGA RT	8528-303
ACTUATOR - P3, UG-25+, 25 LB FT, .875 PUMP, KEY DR, .625 TERM SHAFT, CW ROT, OILGA LT	8528-305
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEY DR, .625 TERM SHAFT, CW ROT, OILGA RT	8528-307
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEY DR, .625 TERM SHAFT, CCW ROT, OILGA RT	8528-308
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, KEY DR, .625 TERM SHAFT, CW ROT, OILGA LT	8528-309
ACTUATOR - P3, UG-25+, 25 LB FT, .875 PUMP, SERR DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE LH	8528-311
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DRIVE, .625 TERM SHAFTS, CW ROT, OIL GAUGE LT	8528-312
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DR, .625 TERM SHAFT, CCW ROT, OILGA LT	8528-313
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DR, .625 TERM SHAFT, CW ROT, OILGA RT	8528-314
ACTUATOR - P3, UG-25+, 25 LB FT, .625 PUMP, SERR DR, .625 TERM SHAFT, CCW ROT, OILGA RT	8528-315
ACTUATOR - P3, UG-25+, 31 LB FT, .625 PUMP, KEY DRIVE, .750 TERM SHAFTS, CW ROT, OIL GAUGE LT	8528-316
ACTUATOR - P3, UG-25+, 31 LB FT, .625 PUMP, SERRATED DRIVE, .750 TERM SHAFTS, CW ROT, OIL GAUGE LT	8528-320
ACTUATOR - P3, UG-25+, 31 LB FT, .625 PUMP, SERRATED DRIVE, .750 TERM SHAFTS, CW ROT, OIL GAUGE RT	8528-321
ACTUATOR - P3, UG-25+, 31 LB FT, .625 PUMP, SERRATED DRIVE, .750 TERM SHAFTS, CCW ROT, OIL GAUGE LT	8528-322
ACTUATOR - P3, UG-25+, 25 LB FT, .875 PUMP, SERR DR, .625 TERM SHAFT, CW ROT, OIL GAUGE RT	8528-324
ACTUATOR - P3, UG-25+, 25 LB FT, .875 PUMP, SERR DR, .625 TERM SHAFT, CCW ROT, OIL GAUGE RT	8528-325
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, SERR DR, .750 TERM SHAFT, CW ROT, OIL GAUGE RT	8528-326
ACTUATOR - P3, UG-25+, 31 LB FT, .875 PUMP, SERR DR, .750 TERM SHAFT, CCW ROT, OIL GAUGE RT	8528-327
*Documentation: Product Spec: 03386, Manual: 26580	



## UG Actuators

Part Number



ACTUATOR - UG 2 MPU, CW, DOUBLE LIP DRIVE SEAL	8251-212
ACTUATOR - 14 PINS, HIGH SPEED, SERR, WITH 8923-631 BOOSTER T	8251-218
ACTUATOR - 14 PINS.HIGH SPEED.SERR.NO BOOSTER KIT	8251-569
ACTUATOR - UG8 LOW SPD CW WP	8251-711
ACTUATOR - UG 20 FT LB	8251-716
ACTUATOR - UG15 (SERR DR SHAFT, HI SPD, MPU)	8251-719
ACTUATOR - UG15 (KEYED DR SHAFT, HI SPD, MPU)	8251-720
ACTUATOR - UG15 (SERR DR SHAFT, MISS TOOTH TERM SHAFT, HI SPEED)	8251-724
ACTUATOR - UG15 (HIGH SPEED, SERR D/S, MARINE GLAND)	8251-734
ACTUATOR - UG15 (HIGH SPEED, FRENCH 31 D/S, MPU)	8251-735
ACTUATOR - UG15 (SERR D/S, HIGH SPEED)	8251-737
ACTUATOR - UG15 FT/LB, H.S, KEYED,DOUBLE LIPS	8251-752
ACTUATOR - UG15 SERR.DR.SHAFT/SERR.TERM.SHAFT/HI.SPD. /3 PIN	8251-758
ACTUATOR - UG15/KEY DR SHAFT/HI SPD/3 PIN	8251-759
ACTUATOR - UG20/SERR DR SHAFT/HI SPD/3 PIN	8251-760
ACTUATOR - UG20/SERR DR SHAFT/.625 D-TERM SHAFT/LO SPD/3 PIN	8251-762
ACTUATOR - UG15/SERR DR SHAFT/.562 D-TERM SHAFT/HI SPD/3 PIN	8251-763
ACTUATOR - UG15 WITH SINGLE RH SERR T/S	8251-0016
ACTUATOR - UG20/SERR DR SHAFT/.625 D-TERM SHAFT/LO SPD/10 PIN/LVDT	8251-764
ACTUATOR - UG15/SERR DR SHAFT/LO SPD/3 PIN	8251-765
ACTUATOR - UG20/SERR DR SHAFT/LO SPD/3 PIN	8251-766
ACTUATOR - UG20/PG ADPTR/SERR DR SHAFT/HI SPD/3 PIN	8251-767
ACTUATOR - UG20/PG ADPTR/SERR DR SHAFT/LO SPD/3 PIN	8251-768
ACTUATOR - UG15/PG ADPTR/SERR DR SHAFT/MISS TOOTH TERM SHAFT/LO SPD/3 PIN	8251-769
ACTUATOR - UG15/EXT KEY DR SHAFT/HI SPD/3 PIN	8251-770
ACTUATOR - UG15/PG ADPTR/SERR DR SHAFT/LO SPD/3 PIN	8251-771
ACTUATOR - UG20/SERR DR SHAFT/HI SPD/3 PIN/CSA	9907-261
ACTUATOR - UG15/KEY DR SHAFT/HI SPD/3 PIN/CSA	9907-262
ACTUATOR - CSA UG15 (SERR DRIVE SHAFT, LOW SPEED)	9907-444
ACTUATOR - UG15 SERR D/S, HI SPEED, 3 PINS, CSA	9907-448
ACTUATOR - UG20/SERR DR SHAFT/.625 D-TERM SHAFT/LO SPD/3 PIN/CSA	9907-878
ACTUATOR - UG20 (KEYED D/S, LOW SPEED PUMP)	8251-0001
ACTUATOR - UG15 ACTUATOR W/HEAT EXCHANGER,	8251-0002
ACTUATOR - UG ACTUATOR (LOW SPD, KEY SHAFT)	8251-0003
ACTUATOR - UG 15 FT-LB SPECIAL DRIVE, HEAT EXCHANGER, MPU	8251-0004
ACTUATOR - UG15 HIGH PUMP 4PINS	8251-0005
ACTUATOR - UG MISSING SERR, MPU	8251-0006
ACTUATOR - UG15 WITH SINGLE RH SERR T/S	8251-0008
ACTUATOR - UG LOW SP, CW, MPU	8251-0009
ACTUATOR - UG ACTUATOR	8251-0010
ACTUATOR - UG20/EXT KEY DR SHAFT/LOW SPD/3 PIN	8251-0015
ACTUATOR - UG15 WITH SINGLE RH SERR T/S	8251-0016
ACTUATOR - UG20/SERR DR SHAFT/.625 D-TERM SHAFT/LO SPD/3 PIN	8251-0018

ACTUATOR - UG 15 FT LB REMOTE OIL PRESSURE	8915-2007
ACTUATOR - UG20 ACT(SERR T/S W/INDICATORS, PG ADAPTER, CSA)	9907-1501
ACTUATOR - UG15/EXTERNAL KEY DR SHAFT/HI SPD/3 PIN/CSA	9907-1508
ACTUATOR - UG HI SPD,CCW,DOUBLE LIP DRIVE SEAL	8251-207-2
*Documentation: Product Spec: 37511, Manual: 37512	

## CPC-II Current-to-Pressure Converter

Part Number



CPC-II - 10 Bar, Class 1, Div. 2 (Zone 2)	9907-1200
CPC-II - 10 Bar, Class 1, Div. 1 (Zone 1 & 2)	9907-1199
CPC-II - 25 Bar, Class 1, Div. 2 (Zone 2)	9907-1198
CPC-II - 25 Bar, Class 1, Div. 1 (Zone 1 & 2)	9907-1197
CPC-II - Dual Redundant, Zone 2, 0-10 Bar model	9907-1253
CPC-II - Dual Redundant, Zone 2, 0-25 Bar model	9907-1254
CPC-II - Voith E360 Adapter Manifold	8928-7240
CPC-II - CPC-1 Converter Manifold	8923-2276
*Documentation: Product Spec: 03352, Manual: 26615	

### CPC-DX

CPC-DX - Dual Redundant Skid, Zone 2, 0-10 bar model	8918-116
CPC-DX - Dual Redundant Skid, Zone 2, 0-25 bar model	8918-118
Kit – CPC Replacement, 10 Bar, Zone 2, CPC-DX Skid	8923-1996
Kit – CPC Replacement, 25 Bar, Zone 2, CPC-DX Skid	8923-1997
Kit – Replacement Isolation Valve, Right Hand, CPC 2 Control or Supply	8923-2236
Kit – Replacement Isolation Valve, Left Hand, CPC 1 Control or Supply	8923-2242
Kit – Pressure Gauge, 10 Bar, CPC-DX Skid	8923-2237
Kit – Pressure Gauge, 25 Bar, CPC-DX Skid	8923-2238
Kit – Shuttle Valve, CPC-DX Skid	8923-2239
*Documentation: Product Spec: 03421, Manual: 26758	

**TM Actuators (Linear)**

Part Number



TM-25LP, Single Coil, Extend	9907-1213
TM-25LP, Single Coil, Retract	9907-1214
TM-25LP, Dual Coil, Extend w/o Feedback	9905-658
TM-25LP, Dual Coil, Retract w/o Feedback	9905-657
TM-200LP, Single Coil, Extend	9907-1235
TM-200LP, Single Coil, Retract	9907-1225

\*Documentation: Product Spec: 82451, Manual: 82450

**Turbine Shutdown Trip Block Assemblies**

Part Number



QuickTrip – SIL-3, Chemically Resistant Seals, Ordinary Location	0-9907-2108
QuickTrip – SIL-3, Chemically Resistant Seals, Zone 1 & 2 Location	1-9907-2108
QuickTrip – SIL-3, Chemically Resistant Seals, Zone 2 Location	2-9907-2108
QuickTrip – SIL-3, Ordinary Location	0-9907-1978
QuickTrip – SIL-3, Zone 1 & 2 Location	1-9907-1978
QuickTrip – SIL-3, Zone 2 Location	2-9907-1978

\*Documentation: Product Spec: 03415, Manual: 26815

**QuickTrip Spare Parts**

Specialized Tools Kit	8923-2192
Solenoid (LAT) Replacement Kit	8923-2142
Sight Window Replacement Kit	8923-2143
Top Cover Replacement Kit (Painted)	8923-2690
Top Cover Replacement Kit (Unpainted)	8923-2144
Bottom Cover Replacement Kit	8923-2145
PCBA Replacement Kit	8923-2146
Return Spring Replacement Kit	8923-2147
Rotor Replacement Kit	8923-2191

\*Documentation: Field Repair Manual: 26842

## 6. Gas Turbine Valves

### GS40 Gas Fuel Valve Actuator with On-board Driver

Part Number



GS40, 1.5IN RF600#, SST, 0.30 ACD, 125V, NO-SIL, NO-RTE, CONDUIT	9908-1608
GS40, 1.5IN RF600#, SST, 0.75 ACD, 125V, NO-SIL, NO-RTE, CONDUIT	9908-1609
GS40, 1.5IN SAE, ALUM, 0.30 ACD, 125V, NO-SIL, NO-RTE, CONNECTORS	9908-1650
GS40, 1.5IN SAE, ALUM, 0.30 ACD, 24V, NO-SIL, NO-RTE, CONNECTORS	9908-1651
GS40, 1.5IN SAE, ALUM, 0.75 ACD, 125V, NO-SIL, NO-RTE, CONNECTORS	9908-1653
GS40, 1.5IN SAE, ALUM, 0.75 ACD, 24V, NO-SIL, NO-RTE, CONNECTORS	9908-1654

\*Documentation: Product Spec: 03456, Manual: 35136

### GS50 Gas Fuel Valve Actuator with On-board Driver

Part Number



GS50, 2IN RF600#, SST, 1.0 ACD, 125V, NO-SIL, NO-RTE, CONDUIT	9908-1605
GS50, 2IN RF600#, SST, 1.5 ACD, 125V, NO-SIL, NO-RTE, CONDUIT	9908-1606
GS50, 2IN RF600#, SST, 2.0 ACD, 125V, NO-SIL, NO-RTE, CONDUIT	9908-1607
GS50, 2IN SAE, ALUM, 1.0 ACD, 125V, NO-SIL, NO-RTE, CONNECTORS	9908-1665
GS50, 2IN SAE, ALUM, 1.0 ACD, 24V, NO-SIL, NO-RTE, CONNECTORS	9908-1666
GS50, 2IN SAE, ALUM, 1.5 ACD, 125V, NO-SIL, NO-RTE, CONNECTORS	9908-1668
GS50, 2IN SAE, ALUM, 1.5 ACD, 24V, NO-SIL, NO-RTE, CONNECTORS	9908-1669
GS50, 2IN SAE, ALUM, 2.0 ACD, 125V, NO-SIL, NO-RTE, CONNECTORS	9908-1671
GS50, 2IN SAE, ALUM, 2.0 ACD, 24V, NO-SIL, NO-RTE, CONNECTORS	9908-1673

\*Documentation: Product Spec: 03456, Manual: 35136

## LQ6 Liquid Fuel Valve Actuator with On-board Driver

Part Number



LQ6, 0.050" Port Size, Single Resolver	9908-1519
LQ6, 0.067" Port Size, Single Resolver	9908-1520
LQ6, 0.150" Port Size, Single Resolver	9908-271
*Documentation: Product Spec: 03288, Manual: 26207	

## LQ25 Standard Valves

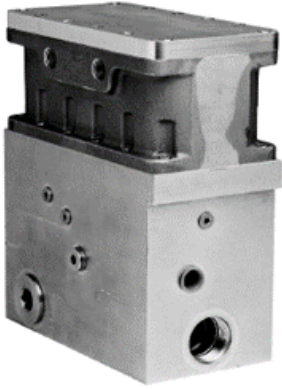
Part Number



LQ25 - 0.1 SQ INCH, PIV AND SOV, 3 SPD RESOLVER, ATEX/PED	9908-238
LQ25 - 0.2 SQ INCH, PIV AND SOV, 3 SPD RESOLVER, ATEX/PED	9907-696
LQ25 - 0.3 SQ INCH, PIV AND SOV, 3 SPD RESOLVER, ATEX/PED	9907-996
*Documentation: Product Spec: 40174, Manual: 26161	

**LSOV25 Liquid Fuel Shutoff Valve**

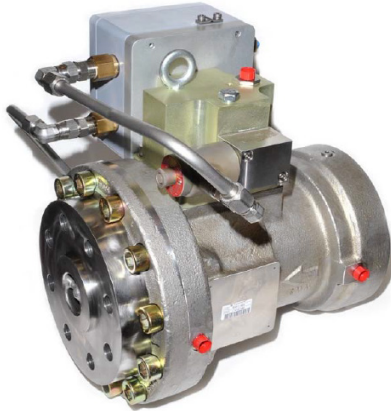
Part Number



LSOV25, 24 VDC, W/ PROX SWITCH	9908-359
LSOV25, 125 VDC, W/ SINGLE PROX SWITCH	9908-358
LSOV25, 24 VDC, M20-1.5 CONDUIT	9908-363
LSOV25, 125 VDC, M20-1.5 CONDUIT	9908-361
*Documentation: Product Spec: 40169, Manual: 40148	

**USOV Universal Shutoff Valves**

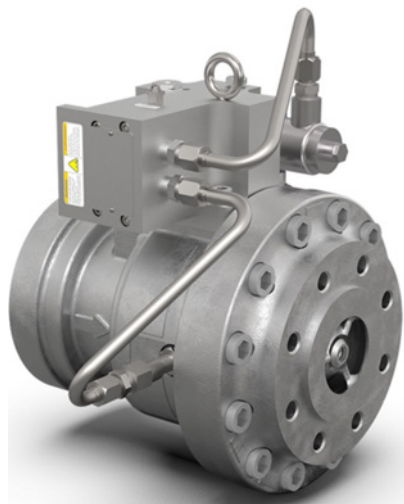
Part Number



USOV, 2 IN 900#, 1.6 ACD, 24 VDC	9907-1233
*Documentation: Product Spec: 03382, Manuals: 26307, 26335	

**GSOV80 Gas Fuel Shutoff Valve, 2.0" Flange**

Part Number



GSOV80, 3 INCH, HP, 24 VDC, WITH CIRCULAR CONNECTOR, LOW TEMP	9907-2328
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GSOV80, 3 INCH, HP, 125 VDC, WITH CIRCULAR CONNECTOR, LOW TEMP	9907-2335
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\*Documentation: Product Spec: 03457, Manuals: 35189

**GSOV25HT Gas Fuel Shutoff Valve, 2.0" Flange**

Part Number



GSOV25 HT W/24 VDC SOLENOID (CLOSED POSITION SWITCH)	9907-861
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GSOV25 HT W/24 VDC SOLENOID (OPEN POSITION SWITCH)	9907-894
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GSOV25 HT W/125 VDC SOLENOID (OPEN POSITION SWITCH)	9907-895
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GSOV25 HT W/125 VDC SOLENOID (CLOSED POSITION SWITCH)	9907-896
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GSOV25 HT W/24 VDC SOLENOID, W/OPEN & CLOSED PROXIMITY SWITCHES	9907-898
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GSOV25 HT W/125 VDC SOLENOID, W/OPEN & CLOSED PROXIMITY SWITCHES	9907-899
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\*Documentation: Product Spec: 03286, Manual: 26190

**DVP Digital Valve Positioner**

Part Number

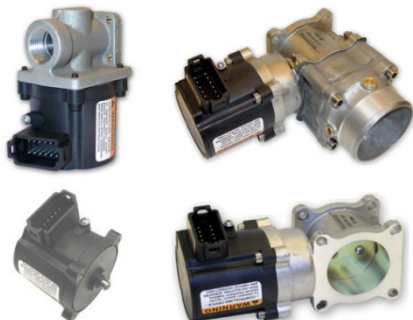


<b>24VDC DVP Driver Classic</b>	
IP30, TB Input/Output	8200-507
IP30, TB Input, Circular Connector Output	8200-510
IP66, Conduit Input, Circular Connector Output	8200-513
IP66, Conduit Input/Output	8200-508
<b>125VDC DVP Driver Classic</b>	
IP30, TB Input/Output	8200-186
IP30, TB Input, Circular Connector Output	8200-188
IP66, Conduit Input, Circular Connector Output	8200-187
IP66, Conduit Input/Output	8200-504
*Documentation: Product Spec: 03376, Manual: 26329	
<b>High Output DVP, 5KW</b>	
TB Input/Output	8200-538
TB Input/Output, SIL Certified	8200-541
TB Input/Output, Servo Interface Module (SIM)	8200-585
<b>High Output DVP, 10KW</b>	
TB Input/Output	8200-536
TB Input/Output, SIL Certified	8200-545
TB Input/Output, Servo Interface Module (SIM)	8200-586
<b>High Output DVP, 12KW</b>	
TB Input/Output	8200-556
TB Input/Output, SIL Certified	8200-558
*Documentation: Product Spec: 03432, Manual: 26773	



## 7. L-Series Actuators and Integrated Speed Controls

The L-Series process controller provides a flexible control solution for applications including air/fuel ratio control, pressure control, and certain other process control functions. It provides a suitable replacement for mechanical systems that need more flexibility in control strategy. The L-Series process controller is designed for industrial applications ranging from generators and mechanical drives to pumps and compressors (see product manual 26251).



### L-Series Speed Control–Actuator Only

	Similar to	Part Number
L-Series Act., Type 6 Shaft, Std Cvr, Spd Ctrl w/o CAN, Dflt Pmtrs	8404-536, 8404-1001	8404-7101

### L-Series Speed Control–Actuator with ITB

L-Series ITB, 36 mm, Spd Ctrl, Dflt Pmtrs	8404-2007	8404-7207
L-Series ITB, 43 mm, Spd Ctrl, Dflt Pmtrs	8404-2008	8404-7208
L-Series ITB, 50 mm, Spd Ctrl, Dflt Pmtrs	8404-2009	N/A
L-series ITB, 50 mm, Sealed, Spd Ctrl, Dflt Pmtrs		8404-2033

### L-Series Process Control with ITB

(AFR is considered a form of Process Control)

L-Series Trim Valve, 16 mm, Process Ctrl, Dflt Pmtrs	8404-3001	8404-7301
L-Series Trim Valve, 22 mm, Process Ctrl, Dflt Pmtrs	8404-3002	8404-7302
L-Series ITB, 25 mm Sealed, Process Ctrl, Dflt Pmtrs, N/C	8404-2035	8404-2061
L-Series ITB, 30 mm Sealed, Process Ctrl, Dflt Pmtrs, N/C	8404-2032	8404-2062
L-Series ITB, 36 mm Sealed, Process Ctrl, Dflt Pmtrs, N/C	8404-2047	8404-2063
L-Series ITB, 43 mm Sealed, Process Ctrl, Dflt Pmtrs, N/C	8404-2043	8404-2064
L-Series ITB, 50 mm Sealed, Process Ctrl, Dflt Pmtrs, N/C	8404-2025	8404-2065

## L-Series Speed Control–Actuator with ITB & Venturi Mixer (MAS)

Manual: B26249

	Similar to	Part Number
L-Series LC50, 25 mm ITB, 27 mm X-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0014-11-00	8404-4001
L-Series LC50, 30 mm ITB, 19 mm O-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0121-01-000	8404-4002
L-Series LC50, 36 mm ITB, 23 mm O-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0107-01-000	8404-4003
L-Series LC50, 43 mm ITB, 29 mm O-MIX, MAS, Spd Ctrl, Dflt Pmtrs	8404-4004	
L-Series LC50, 50 mm ITB, 36 mm O-MIX, MAS, Spd Ctrl, Dflt Pmtrs	8404-4005	8404-7405
L-Series LC50, 30 mm ITB, 30 mm X-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0121-12-000,8404-4006	8404-7406
L-Series LC50, 36 mm ITB, 34 mm X-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0107-13-000,8404-4007	8404-7407
L-Series LC50, 43 mm ITB, 40 mm X-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0108-14-000,8404-4008	8404-7408
L-Series LC50, 50 mm ITB, 47 mm X-MIX, MAS, Spd Ctrl, Dflt Pmtrs	0055-15-000,8404-4009	8404-7409

## L-Series Diesel Act. Applications

Manual: B26250

L-Series DER, Stanadyne Cvr/Shft, Spd Ctrl w/o CAN, Stana Pmtrs	8404-563, 8404-5003	8404-7503
L-Series DER, Delphi Cvr/Shft w/Lvr, Spd Ctrl w/o CAN, Dflt Pmtrs	8404-5004	8404-7504

## L-Series Positioner with ITB

Manual: B26249

L-Series Trim Valve, 16 mm, Pos Ctrl, Dflt Pmtrs	8404-3003	8404-7303
L-Series Trim Valve, 22 mm, Pos Ctrl, Dflt Pmtrs	8404-3004	8404-7304
L-Series ITB, 25 mm Sealed, Pos Ctrl, PWM, N/C	8404-2013	8404-7213
L-Series ITB, 30 mm Sealed, Pos Ctrl, PWM, N/C	8404-2014	8404-7214
L-Series ITB, 36 mm Sealed, Pos Ctrl, PWM, N/C	8404-2015	8404-7215
L-Series ITB, 43 mm Sealed, Pos Ctrl, PWM, N/C	8404-2016	8404-7216
L-Series ITB, 50 mm Sealed, Pos Ctrl, PWM, N/C	8404-2017	8404-7217
L-Series ITB, 36 mm Sealed, Pos Ctrl, PWM, N/O	8404-2057	8404-7257

## L-Series Accessories

Gasket, 16 & 22 mm, 1/valve	3051-073
Gasket, 25, 30, & 36 mm ITBs	0014-00-034
Gasket, 43 & 50 mm ITBs	0108-00-021
HEGO (Heated Exhaust Gas Oxygen) Sensor	1680-6005
Kit, HEGO Mating Connector	8928-427
Cable, LCS to L-Series Adapter	5450-1033
Kit, L-Series Serial Communication Interface	8923-1061
Kit, L-Series Mating Connector	8928-396
Manifold Air Pressure Transducer	6910-314
Zero Pressure Regulator (for sizes 43 or 50 mm)	0055-00-063

## 8. F-Series Actuator and Actuator with ITB

The F-Series ITB is designed to throttle air or air/fuel mixtures for gaseous engines in industrial and on-highway service. This system is designed for direct replacement of traditional throttle valves and does not require linkage between the valve and actuator.

### F-Series Positioners

Similar to

Part Number



	Similar to	Part Number
F-Series Actuator, Std Shaft, 23-pin	8235-600	8245-001
F-Series 33 mm ITB, Std Mount, 23-pin, Plan A	8235-661	8245-027
F-Series 48 mm ITB, Std Mount, 23-pin, Plan A, Factory Default SW	8235-602	8245-052
F-Series 60 mm ITB, Std Mount, 23-pin, Plan A, Factory Default SW	8235-606	8245-003
F-Series 60 mm ITB, JADE Mount, 23-pin, Plan A, Factory Default SW	8235-608	N/A
F-Series 68 mm ITB, Std Mount, 23-pin, Plan A, Factory Default SW	8235-610	8245-004*
F-Series 68 mm ITB, M10 Mount, 23-pin, Plan D, Factory Default SW	8235-612	8245-025
F-Series 68 mm ITB, Std Mount, 23-pin, Plan B, Flo-Tech Flow Curve	8235-635	8245-030
F-Series 68 mm ITB, M10 Mount, 14-pin, Plan A	8235-631*	N/A
F-Series 48 mm ITB, Std Mount, 14-pin, Plan A	8235-623	N/A
F-Series 48 mm ITB, M08 Mount, 14-pin, Plan B	8235-624	N/A
F-Series 60 mm ITB, Std Mount, 14-pin, Plan A	8235-625	N/A
F-Series 60 mm ITB, JADE Mount, 14-pin, Plan A	8235-626	N/A
F-Series 68 mm ITB, Std Mount, 14-pin, Plan A	8235-627	N/A
F-Series 68 mm ITB, M10 Mount, 14-pin, Plan A	8235-628	N/A
F-Series 60 mm ITB, Std Mount, 14-pin, Plan A	8235-630	N/A
F-Series 68 mm ITB, Std Mount, 14-pin, Plan A	8235-631	N/A
F-Series 60 mm ITB, Std Mount, 14-pin, Plan B	8235-634	N/A
F-Series 68 mm ITB, Std Mount, 14-pin, Plan B	8235-639	N/A
F-Series 48 mm ITB, Std Mount, 23-pin, Plan B, Flo-Tech Sch, N/O	8235-668	8245-033
F-Series 60 mm ITB, Std Mount, 23-pin, Plan A, Flo-Tech Sch, N/O	8235-669	8245-026
F-Series 68 mm ITB, Std Mount, 23-pin, Plan A, Flo-Tech Sch, N/O	8235-622	8425-018

### Accessories

Kit-F-Series 14-Pin Mating Connector (14-pin kit)	8923-1311
Kit-F-Series 23-Pin Mating Connector (23-pin kit)	8923-1312
Kit-F-Series Communication Hardware, 14 Pin (14-pin kit)	8923-1254
Kit-F-Series Communication Hardware, 23 Pin (23-pin kit)	8923-1255

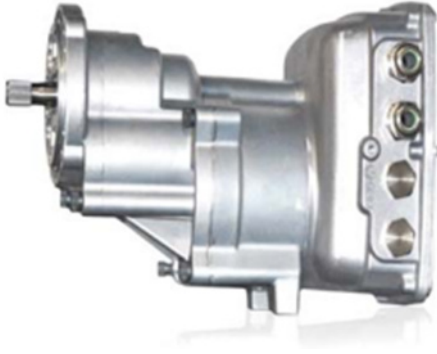
## 9. R-Series Actuators

Woodward's R-11, R-30, and R-120 electric positioners provide high torque rotary travel to precisely position various types of control valves and other mechanisms that operate in high-temperature, high-vibration locations. R-Series actuators are targeted for waste-gate applications. Only R-11 is applicable for fuel rack applications.

### R-Series Actuators

Similar to

Part Number



	Non Preferred	Replacement
R 11 Positioner (... Nm)	8410-001 non-preferred	8410-007
R 30 Positioner (... Nm)	8410-002 non-preferred	8410-008
R120 Positioner (... Nm)		8410-010

\*Documentation: Product Spec 03434; Manual 26729, B26845

## 10. ProAct Actuator

### ProAct 75 Speed Control (1<sup>st</sup> Generation)

Old Part Number

Part Number



\*See B51499 for more details

<b>ProAct Speed Control (Manual 04121 non-RoHs -&gt; 35131 RoHs)</b>	8400-010	8400-059
	8400-055	8400-061
	9905-462	9907-1289
	9905-463	9907-1290
	9905-792	9907-1291
<b>ProAct 75 Driver + Actuator</b>	8256-238	8256-259
	8256-242	8256-260
<b>ProAct 75 Drivers</b>	8400-011	8400-706
	8400-016	8400-703
	8400-020	8400-704
	8400-025	8400-704*
	8400-702	8400-706*
<b>ProAct 75 ITB for Speed Control</b>	8235-177	8235-399
	8235-178	8235-249
	8235-181	8235-402
	8235-185	8235-406
	8300-244	8300-717
<b>ProAct 75 ITB for ProAct Driver</b>	8235-177	8235-398
	8235-178	8235-248
	8235-181	8235-400
	8235-185	8235-404
	8300-244	8300-716

\*Documentation: Product Spec 03434; Manual 26729, B26845

**ProAct Positioner (16 pin), 3rd Generation**

Old Part Number

Part Number



ProAct Model II	8404-302
ProAct Model III	8404-303
ProAct Model IV	8404-304

\*Documentation: Product Spec 04126; Manual 26914 (non-flex)

**ProAct Positioner (Flex I/O)**

Old Part Number    Part Number



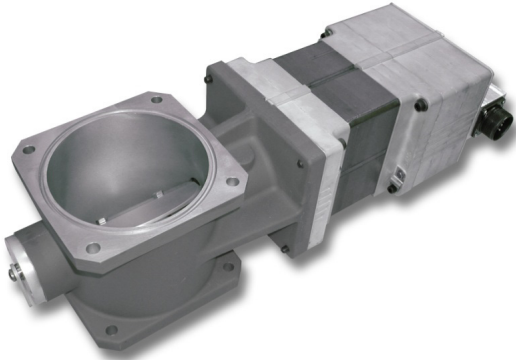
PROACT GEN3 FLEX, MODEL II (BLANK, 0-5 Vdc in, 4-20 mA out)		8404-307
PROACT GEN3 FLEX, MODEL III (10-PIN FL, 0.5 Vdc in 4-20 mA out)		8404-311
PROACT GEN3 FLEX, MODEL II (SIDE GLANDS, 4-20 mA, 4-20 mA)		8404-317
PROACT GEN3 FLEX, MODEL II (16-PIN (C/P/A), D+ CONFIG, GENERAL)	8404-008	8404-319
PROACT GEN3 FLEX, MODEL II (7-PIN, PWM, ANALOG CONFIG, 4-20 mA In, 0-5Vdc out)		8404-320
PROACT GEN3 FLEX, MODEL II (7-PIN, 4-20MA, ANALOG CONFIG, 4-20 mA In, 0-5 Vdc out)		8404-321
PROACT GEN3 FLEX, MODEL III (BLANK, 0-5 Vdc in, 4-20 mA out)		8404-308
PROACT GEN3 FLEX, MODEL III (16-PIN (C/P/A), D+ CONFIG, 4-20 mA In/Out)	8404-009, 8404-037	8404-318
PROACT GEN3 FLEX, MODEL III (16-PIN (C/P/A), D+ CONFIG, JICHA)		8404-322
PROACT GEN3 FLEX, MODEL III (16-PIN (C/A), 74MM PILOT, NO INERTIA, D+, CUMMINS) 0-200 mA, 0-5 Vdc		8404-323
PROACT GEN3 FLEX, MODEL III (16-PIN (C/P/A), D+ CONFIG, ITB ONLY, 4-20 mA In/Out)		8404-324
PROACT GEN3 FLEX, MODEL III (BLANK, FL, 4-20 mA In/Out)		8404-327
PROACT GEN3 FLEX, MODEL II (BLANK, D+ CONFIG, 4-20 mA)	8404-003	8404-328
PROACT GEN3 FLEX, MODEL III (BLANK, D+ CONFIG, 4-20 mA)	8404-027, 8404-026, 8404-114	8404-329
PROACT GEN3 FLEX, MODEL III (SIDE GLANDS, GENERAL SALE), 4-20 mA, 4-20 mA		8404-337
PROACT GEN3 FLEX, MODEL IV (BLANK, 0.5 Vdc in, 4-20 mA Out)		8404-309
PROACT GEN3 FLEX, MODEL IV (BLANK, D+ CONFIG 3DEG STOP, 4-20 mA In/Out))	8404-039	8404-315
PROACT GEN3 FLEX, MODEL IV (GLAND, D+ CONFIG 3DEG STOP, 4-20 mA In/Out)	8404-061, 8404-045	8404-316
PROACT GEN3 FLEX, MODEL IV (16-PIN (C/P/A), D+ CONFIG, 4-20 mA In/Out))	8404-010, 8404-211	8404-325
PROACT GEN3 FLEX, MODEL IV (BLANK, D+ CONFIG, GENERAL)	8404-029	8404-330
PROACT GEN3 FLEX, MODEL IV (SIDE GLANDS, D+ CONFIG 3DEG STOP, WINGD), 4-20 mA, 4-20 mA		8404-336

\*Documentation: Manual B26915

**ProAct ITB, 3rd Generation**

Old Part Number

Part Number



105 MM ITB, PROACT GEN3 MODEL II (GENERAL SALE)	8335-003
120 MM ITB, PROACT GEN3 MODEL II (GENERAL SALE)	8335-004
135 MM ITB, PROACT GEN3 MODEL III (GENERAL SALE)	8335-005

\*Documentation: Manual B26168



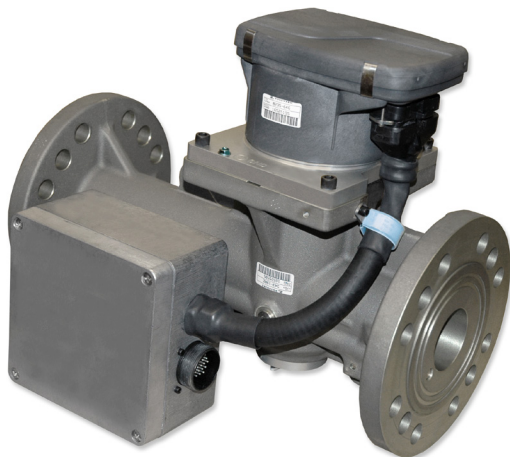
## 11. TecJet Fuel Control Valves

The TecJet™ valve/actuator is an integrated, digitally compensated control valve and actuator system for regulating and metering the flow of gaseous fuels. The device is designed to accept a fuel rate demand signal. It also incorporates feedback sensors that monitor fuel pressure, temperature, and valve pressure differential.

### TecJet Fuel Control Valves

Old Part Number

Product Number



TecJet 52 for EGS-01	8407-526, 8407-540	8407-605
TecJet 52 for EGS-02/E6	8407-526, 8407-534	8407-603
TecJet 52 for GECM (exclusive)		
TecJet 52 for Jenbacher (exclusive)		8407-636
TECJET 52 GEN II, EGS02, METAL CAP, ROHS		8407-647
TecJet 52 for MTU (CAN-open)	8407-528	
TECJET 52 GEN II, EGS02, METAL CAP, ROHS		8407-604
TECJET 52 GEN II, WITH MOUNTING SUPPORT, JENBACHER, ROHS	8407-547	8407-647
TecJet 52 for MHI	8407-600, 8407-602	8407-537
TecJet 52 for CAT (exclusive)	468-2639 / 20-R5665	525-8021 / 20R-9772
TecJet 52 for CAT (exclusive)	472-8429 / 20R-5664	506-8199 / 20R-9664
TecJet 85 for MTU (non-exclusive)	8407-530	N/A
TecJet 85	8407-538	8407-533
TecJet 110 for EGS-01		8407-512
TecJet 110 for EGS-02/E6		8407-523
TecJet 110 for Jenbacher (Exclusive)		8407-515
TecJet 110 for MTU		8407-543

## 12. Large Engine Control Module (LECM)

The LECM provides a single-box approach that can be built up with interlocking modules into a single engine-mountable assembly. This control scheme uses a modular approach for both the electronic control modules hardware and software. These modules can be mixed and matched to address different applications all using the same software interface. This single-module approach lowers hardware, wiring, and troubleshooting costs, and reduces development and installation time.

### Large Engine Control Module (LECM)

Part Number



CONTROL - LECM - E6 (3-STACK) LEAN-BURN, 20 IGNITION, 10 KNOCK, 14 TC	8280-4003
CONTROL - LECM - E6 (3-STACK) LEAN-BURN, 20 IGNITION, 16 KNOCK, 8TC	8280-4041
CONTROL - LECM - E6 (2-STACK) LEAN-BURN WITH 20 KNOCK	8280-4043
CONTROL - LECM - E6 (2-STACK) LEAN-BURN WITH 20 IGNITION	8280-4045
CONTROL - LECM - E6 LEAN-BURN (SA MAIN MODULE)	8280-4046
CONTROL - LECM - E6 (2-STACK) RICH-BURN WITH 20 IGNITION	8280-4048
CONTROL - LECM - E6 RICH-BURN (SA MAIN MODULE)	8280-4049
CONTROL - LECM - E6 (3-STACK) RICH-BURN, 20 IGNITION, 16 KNOCK 8TC	8280-4051
CONTROL - LECM - E6 (3-STACK) RICH-BURN, 20 IGNITION, 20 KNOCK	8280-4053
CONTROL - LECM - E6 (3-STACK) RICH-BURN, 20 IGNITION, 10 KNOCK, 14TC	8280-4059
CONTROL - LECM - E6 (3-STACK) LEAN-BURN, 20 IGNITION, 20 KNOCK	8280-4061
CONTROL - LECM - GENERIC - STANDALONE AUX RTCDC, 10 CH FAST 4-20MA, 14 CH T/C	8280-4063
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX RTCDC, 10 CH FAST 0-5V, 14 CH T/C; EID, 20 CH DRVR	8280-4073
CONTROL - LECM - GENERIC - 2-STACK: MAIN; AUX RTCDC, 10 CH FAST 0-5V, 14 CH T/C	8280-4074
CONTROL - LECM - GENERIC - STANDALONE AUX RTCDC, 10 CH FAST 0-5V, 14 CH T/C	8280-4075
CONTROL - LECM, MAIN SA, MARINE ENGINE PROPULSION	8280-4082
CONTROL - LECM; 2-STACK; MAIN / AUX; GENERIC; PROTECTION/ IO MODULE, 16 CH SLOW 4-20MA, 8 CH T/C	8280-4084
CONTROL - LECM; AUX SA; GENERIC PROTECTION/ IO MODULE, 16 CH SLOW 4-20MA, 8 CH T/C	8280-4088
CONTROL - LECM; 3-STACK; GENERIC; PROTECTION/ IO MODULE, 16 CH SLOW 4-20MA, 8 CH T/C	8280-4089
CONTROL - LECM - GENERIC - 2-STACK: MAIN; EID, (20) DRVR	8280-4400
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX, (8) KNK, (8) FAST 0-5V, (8) T/C; EID, (20) DRVR	8280-4401

CONTROL - LECM - GENERIC - STAND-ALONE: EID, (20) DRVR	8280-4402
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX RTCDC, 10 CH FAST 4-20MA, 14 CH T/C; EID, 20 CH DRVR	8280-4403
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX, (10) KNK, (14) TC; EID, (20) DRVR	8280-4404
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX, (16) KNK, (8) TC; EID, (20) DRVR	8280-4405
CONTROL - LECM - GENERIC - 2-STACK: MAIN; AUX, (10) KNK, (14) TC	8280-4406
CONTROL - LECM SA MAIN MODULE	8280-4408
CONTROL - LECM - GENERIC - STAND-ALONE: AUX, (24) T/C	8280-4409
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX, (24) TC; EID, (20) DRVR	8280-4410
CONTROL - LECM - GENERIC - 3-STACK: MAIN; AUX RTCDC, 2 CH FAST 4-20MA, 2 CH FAST 0-5V, 20 CH KNK; EID, 20 CH DRVR	8280-4411
CONTROL - LECM - GENERIC - 2-STACK: MAIN; AUX RTCDC, 2 CH FAST 4-20MA, 2 CH FAST 0-5V, 20 CH KNK	8280-4412
CONTROL - LECM - GENERIC - STAND-ALONE: AUX RTCDC, 2 CH FAST 4-20MA, 2 CH FAST 0-5V, 20 CH KNK	8280-4413
CONTROL - LECM - GENERIC - STAND-ALONE - AUX RTCDC, 1 CH SLOW 0-5V, 1 CH FAST 0-5V, 1 CH SLOW 4-20 MA, 1 CH FAST 4-20 MA, 20 CH KNK	8280-4414
CONTROL - LECM - GENERIC - 2-STACK: MAIN; AUX, 24 T/C	8280-4417
KIT - LECM, VIBRATION ISOLATION, MOUNTING HARDWARE	8923-2031
KIT - LECM, HARDWARE, SMALL MTG, VIBRATION ISOLATION	8923-2049
KIT - LECM, MARINE VIBRATION ISOLATION, MOUNTING HARDWARE	8923-2216
KIT - DEUTCH DT06 FOR LECM COIL	8928-7476
KIT - LECM 3-BOARD STACK STANDARD ACCESSORIES	8928-7522
KIT - LECM MAIN STANDARD ACCESSORIES	8928-7525
KIT - LECM HARNESS, AND BREAKOUT MODULE	8928-7541
KIT - LECM PINS FOR TERMINALS	8928-7555
KIT - LECM-MAIN KIT, R30 SERIES, WITH LECM ACCESSORIES	8928-7615
KIT - ELEMENT 1 MSERIES LECM KIT	10-020-609
COIL - CSA CERTIFIED LECM IGNITION COIL	1698-1230CSA
KIT - PURCHASED SECONDARY KIT FOR LECM COIL	8928-7490.KIT

## 13. IPCS Power Management and Power Generation Controls

### easYgen-100 Line

Part Number



#### Autostart Controls

easYgen-400 Manual: 37884, 37890	8440-2250
easYgen-600 Manual: 37698, 37786	8440-2252
easYgen-800 Manual: 37691, 37692	8440-2254
Documentation: Product Spec: 37697	

### easYgen-1000 Line

Part Number



#### AMF Automatic Mains Failure Controls

easYgen-1400 Manual: 37799, 37889	8440-2251
easYgen-1600 Manual: 37699, 37785	8440-2253
easYgen-1700 Manual: 37798, 37888	8440-2256
easYgen-1800 Manual: 37685, 37690	8440-2255
Documentation: Product Spec: 37686	

### easYgen-2000 Simple Paralleling

Part Number



easYgen-2200-5/P1	8440-1855
easYgen-2200-1/P1	8440-1856
easYgen-2200-5/P2	8440-1857
easYgen-2200-1/P2	8440-1858
easYgen-2300-5/P1	8440-2080
easYgen-2300-1/P1	8440-2122

easYgen-2300-5/P2	8440-2058
easYgen-2300-1/P2	8440-2123
easYgen-2500-5/P1	8440-1884
easYgen-2500-1/P1	8440-1860
Documentation: Product Spec: 37548, Manual: 37535	
easYgen-2500-5/P1-K33 Rental Version	8440-2029
easYgen-2500-1/P1-K33 Rental Version	8440-2096
Documentation: Product Spec: 37553, Manual: 37537	

## easYgen-3100XT/3200XT Complex Paralleling

Part Number



easYgen-3100XT	8440-2081
easYgen-3200XT-LT	8440-2083
easYgen-3200XT	8440-2082
Documentation: Product Spec: 37582, Manual: 37574	

## easYgen-3400XT/3500XT Complex Paralleling

Part Number



easYgen-3400XT-P1	8440-2084
easYgen-3400XT-P2	8440-2087
easYgen-3500XT-P1	8440-2085
easYgen-3500XT-P1-LT	8440-2086
easYgen-3500XT-P2	8440-2088
easYgen-3500XT-P2-LT	8440-2089
easYgen-3500XT-P2-K58	8440-2318
Documentation: Product Spec: 37583, Manual: -P1 37580, - P2 37581 K58 MTU MDEC+Legacy CAN Manual 37959, 37960	

**easYgen-3000XT Rental****Part Number**

easYgen-3100XT-RENTAL	8440-2284
easYgen-3200XT-RENTAL	8440-2285
easYgen-3200XT-LT-RENTAL	8440-2286
easYgen-3400XT-P1-RENTAL	8440-2287
easYgen-3400XT-P2-RENTAL	8440-2289
easYgen-3500XT-P1-RENTAL	8440-2288
easYgen-3500XT-P1-LT-RENTAL	8440-2283
easYgen-3500XT-P2-RENTAL	8440-2290
easYgen-3500XT-P2-LT-RENTAL	8440-2291

Documentation: easYgen-3000XT Manual +Manual: 37935

**LS-5 Breaker Controls for easYgen-3400XT/3500XT Packages CANopen Communication****Part Number****LS-521****LS-522****LS-511****LS-512****Backpanel Version 1 Breaker**

LS-511-5/P1	8440-2152
LS-511-1/P1	8440-2180

**Display Version 1 Breaker**

LS-521-5/P1	8440-2150
LS-521-1/P1	8440-2178

Documentation: Product Spec: 37661, Manual: 37649

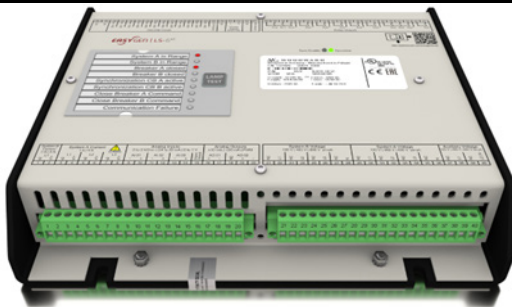
**Backpanel Version 2 Breaker**

LS-512-5/P1	8440-2153
LS-512-1/P1	8440-2181

**Display Version 2 Breaker**

LS-522-5/P1	8440-2151
LS-522-1/P1	8440-2179

Documentation: Product Spec: 37665, Manual: 37650

**LS-6XT Breaker Controls for easYgen-3400XT/3500XT Packages Redundant E-Net Communication****Part Number**

LS-612XT-P1	8440-2222
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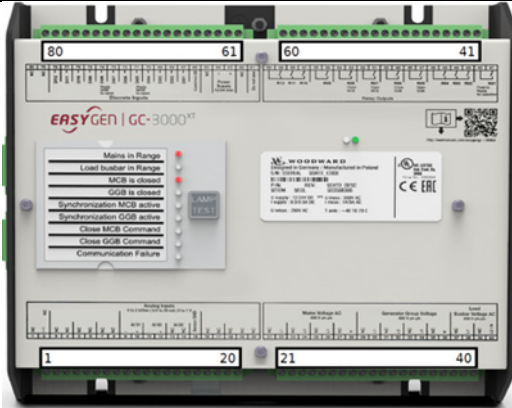
Documentation: Product Spec: 37913, Manual: 37914

LS-612XT-P2	8440-2317
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Documentation: Product Spec: 37913, Manual: 37982

**GC-3400XT Group Controller**

Part Number



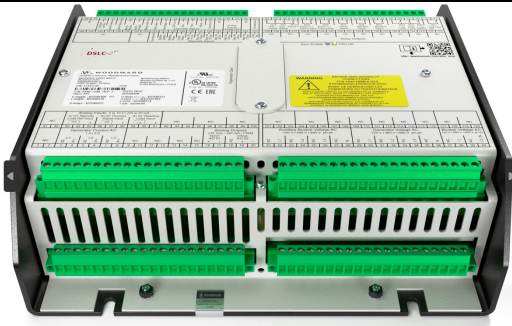
GC-3400XT-P1

8440-2267

Documentation: Product Spec: 37921, Manual: 37922

**DSLCL-2XT and MSLCL-2XT Switchgear Paralleling Controls**

Part Number



DSLCL-2XT

8440-2299

Documentation: Product Spec: 37963, Manual: 37948

MSLCL-2XT

8440-2298

Documentation: Product Spec: 37962, Manual: 37947

**easY-I\* Control for Inverter-Based Power Systems**

Part Number



easY-I-3500XT-P1

8440-2292

easY-I-3400XT-P1

8440-2293

Documentation: Manual: 37957

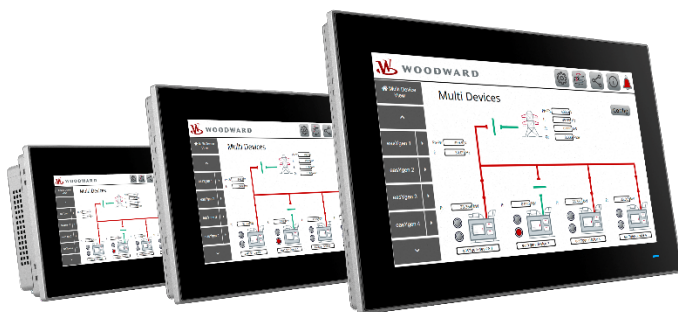
\*Contact your Woodward Sales contact

**easyFlex\* Free Programable Control****Part Number**

easYFLEX-3400XT-P2 (GAP)	8440-2217
Documentation: Manual: 37986	
*Contact your Woodward sales contact	

**Accessories****Part Number****easYgen-3000XT Software Tools**

Modbus Master Mapper	10-017-822
ModbusMastermapper LICENSE	10-017-923
Interconnect Mapper	10-031-249
Interconnect Mapper LICENSE	10-031-250
dbus Telegram Mapper	9927-2582
Documentation: Manual: 37673, 37684	
HMI Localization Tool	10-011-569
See Tutorials YouTube <a href="#">Woodward Power Management Channel</a>	
LDSS Emulation Tool	10-012-060
Documentation: Product Spec: 37594, Manual: 37928	
PowerGen Learning Module	8447-1012
Documentation: Product Spec: 03412, Manual: 26736 51474	
Cloud based easYsim simulation 3 month access	10-059-783
SOFTWARE KIT-AVR UPGRADE PACKAGE for easYgen-3200XT	10-026-185
SOFTWARE KIT-CONVERSION PACKAGE FOR LS6 TO GC	10-026-186
SOFTWARE KIT-LEGACY CAN SUPPORT PACKAGE K57	10-030-825
SOFTWARE KIT-LEGACY CAN AND MDEC SUPPORT PACKAGE for easYgen-3500XT-P2 only	10-030-826

**Remote Panel for easYgen-3000XT, LS6XT****Part Number**

easYview-07-30	8446-1071
easYview-10-60	8446-1072
easYview-15-150	8446-1073
Documentation: Product Spec: 37951, Manual: 37945	



## Configuration Cable Required for easYgen-1500/2000/DTSC-200/LS5/IKD1M

Part Number



DPC-USB Configuration Cable	5417-1251
DPC-1 RS232 Configuration Cable	5417-557
Documentation: Manual: 37372	

## Digital Expansion Cards for easYgen- 1500/2000/3000XT/LS6XT/GC-3400XT

Part Number



IKD1M 8 DI/8 DO Expansion Card	8440-2116
Documentation: Product Spec: 37171, Manual: 37135	



IKD-IN-16 16 DI Expansion Card	8440-2307
Documentation: Product Spec: 37984, Manual: 37972	



IKD-OUT-16 16 DO Expansion Card	8440-2306
Documentation: Product Spec: 37985, Manual: 37968	

## Remote Annunciator for easYgen-100/1000 line and 3000XT (Oct 2023)

Part Number



easYlite-200

8446-1007

Documentation: Product Spec: 37907, Manual: 37903, 37908

## actiVgen

Part Number



actiVgen

8440-2100

Documentation: Product Spec: 03419, Manual: 26777

## EKS CAN Fiber Converters

Part Number



Single

8445-1049

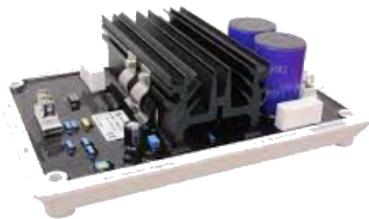
Redundant

8445-1048

Documentation: See [FAQ Article](#)

## Exciter-10 DC Amplifier for easYgen-3400XT/3500XT AVR Regulation

Part Number



Exiter-10

10-012-909

Documentation: Product Spec: 37909, Manual: 37910

**LSG Load Share Gateway**

Part Number



LSG kVAR Reactive Power Analog Load Share

8444-1074

LSG kW Active Power Analog Load Share

8444-1075

Documentation: Product Spec: 37451, Manual: 37442

**ESENET CANopen to MODBUS/TCP Converter**

ESENET

8445-1044

Documentation: Manual: 37576

**ESEPRO CANopen to PROFIBUS-DP**

ESEPRO

8445-1046

Documentation: Manual: 37577

**ATS Controls**

Part Number

**DTSC-200**

DTSC-200-51B	8440-1867
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DTSC-200-55B	8440-1868
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DTSC-200-55B/K38	8440-2155
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Documentation: Product Spec: 37398, Manual: 37482, 37483, 37484, 37485, 37486



DTSC-200A	8440-2297
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Documentation: Product Spec: 37944, Manual: 37939, 37940, 37941, 37942, 37943

**SPM-D2 Synchronizers**

Part Number

**2 Phase Paralleling**

SPM-D2-1040B /400VAC sensing	8440-2164
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SPM-D2-1010B /110VAC sensing	8440-2166
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SPM-D2-1040B/N wide range power supply	8440-2175
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SPM-D2-1010B/N wide range power supply	8440-2174
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SPM-D2-1040B/X analog speed/voltage bias	8440-2171
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SPM-D2-1010B/X analog speed/voltage bias	8440-2168
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SPM-D2-1040B/XN analog speed/voltage bias, wide range power supply	8440-2190
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SPM-D2-1010B/XN analog speed/voltage bias, wide range power supply	8440-2172
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Documentation: Product Spec: 37622, Manual: 37615

SPM-D2-10B/PSY5-FU-D	8440-2170
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SPM-D2-10B/PSY5-FU-D-W wide range power supply	8440-2173
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Documentation: Product Spec: 37622, Manual: 37616

### 2 Phase Paralleling with Single Phase CT Sensing and kW and kVAR Analog Load Sharing Lines

SPM-D2-1145B/LSXR	8440-2169
SPM-D2-1115B/LSXR	8440-2165

Documentation: Product Spec: 37623, Manual: 37618

### 3 Phase Paralleling

SPM-D2-1040B/YB	8440-2176
SPM-D2-1010B/YB	8440-2167
SPM-D2-1040B/NYB	8440-2189
SPM-D2-1010B/NYB	8440-2177

Documentation: Product Spec: 37622, Manual: 37617

## MFR300 kW Transducers with Protection

Part Number



MFR300-71M	8444-1063
MFR300-15M	8444-1064
MFR500-6M/WK0400 + DPC USB	8444-1070
MFR300-11M	8444-1071
MFR300-11M	8444-1089
MFR300-15M	8444-1090
MFR300-71M	8444-1091
MFR300-75M	8444-1092
MFR300-75M/SU03 replacement for LR20025 MFR13	8444-1093
MFR300-75M/K28	8444-1094
MFR300-71M	8444-1095
MFR300-71M/K42	8444-1104
MFR300-75M	8444-1107
MFR300-75M/K45	8444-1108
MFR300-71M	8444-1109
MFR300-71M/K45	8444-1111
MFR300-71M/K53	8444-1112

Documentation: Product Spec: 37406, Manual: 37938

**easYprotec-100**

Part Number



easYPROTEC-1410-7	8441-1161
easY2116PROTEC-1410-1	8441-1160
Documentation: Manual: 37541	

**easYgen-3100/3200**

Part Number



easYgen-3200-1/P1	8440-2049
easYgen-3200-5/P1	8440-2050
easYgen-3200-1/P2	8440-2051
easYgen-3200-5/P2	8440-2052
easYgen-3100-5/P1	8440-2054
easYgen-3100-1/P1	8440-2055
easYgen-3100-5/P2	8440-2056
easYgen-3100-1/P2	8440-2057

Documentation: Product Spec: 37258, Manual: 37532

**easYgen-3400/3500/P1/P2**

Part Number

easYgen-3500-5/P1	8440-1934
easYgen-3500-1/P1	8440-1935
easYgen-3500-5/P2	8440-1936
easYgen-3500-1/P2	8440-1937
easYgen-3400-5/P1	8440-1945
easYgen-3400-1/P1	8440-1956
easYgen-3400-5/P2	8440-2078
easYgen-3400-1/P2	8440-2079

Documentation: Product Spec: 37523, Manual: 37528

**easYgen-3400/3500/P1/P2 RENTAL Packages**

Part Number

easYgen-3500-5/P1-K32	8440-2030
easYgen-3500-1/P1-K32	8440-2095
easYgen-3500-1/P2-K32	8440-2191
easYgen-3500-5/P2-K32	8440-2192

Documentation: Manual: 37528 37536

**RP-3000**

Part Number



RP-3000	8446-1048
RP-3500-P1-K32-RENTAL	8446-1059
RP-3500-P2-K32-RENTAL	8446-1062
RP-3000-MARINE additional DNV and BV	8446-1046
Documentation: Product Spec: 37446, Manual: 37534	

**RP-3000 Ordering Table**

The RP-3000 remote panels support the following easYgen-3000 genset controls:

Remote Panel...	Supporting easYgen...	P/N
RP-3000...	...supporting easYgen-3100/3200-P1/P2	Software version 1.17xx or higher
	...supporting easYgen-3400/3500-P1/P2	all
	...supporting easYgen-3400/3500 Marine	all
	...supporting easYgen-3400-P1 Rental	all
	...supporting easYgen-3500-P2 Rental	all
		8446-1048
		8446-1046
		8446-1059
		8446-1062

**easYgen-3400/3500, LS5 & RP-3000 MARINE Packages**

	Part Number
easYgen-3500-5/P1-MARINE additional BV & DNV	8440-2047
easYgen-3500-1/P1-MARINE additional BV & DNV	8440-2046
easYgen-3400-5/P1-MARINE additional BV & DNV	8440-2045
easYgen-3400-1/P1-MARINE additional BV & DNV	8440-2044
Documentation: Product Spec: 37533, Manual: 37531	
<b>Backpanel version 1 breaker</b>	
LS-511-5/P1-MARINE additional DNV and BV	8440-2077
LS-511-1/P1-MARINE additional DNV and BV	8440-2076
Documentation: Product Spec: 37545, Manual: 37542	
<b>Display version 1 breaker</b>	
LS-521-5/P1-MARINE additional DNV and BV	8440-2075
LS-521-1/P1-MARINE additional DNV and BV	8440-2074
Documentation: Product Spec: 37545, Manual: 37542	
<b>RP-3000 Marine</b>	
RP-3000-MARINE additional DNV and BV	8446-1046
Documentation: Product Spec: 37446, Manual: 37534	

**SPM-A Synchronizers**

Part Number



SPM-A STD NON VOLTAGE MATCH	9907-028
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SPM-A STD VOLTAGE MATCHING

9907-029

Documentation: Product Spec: 82383, Manual: 82384

**LSM Load Sharing Module****Part Number**

Load Sharing Module 120VAC, (ANALOG)

9907-173

Load Sharing Module 24VDC, (0-5V)

9907-252

Load Sharing Module 24VDC, (PWM)

9907-838

Documentation: Product Spec: 82686, Manual: 02029



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