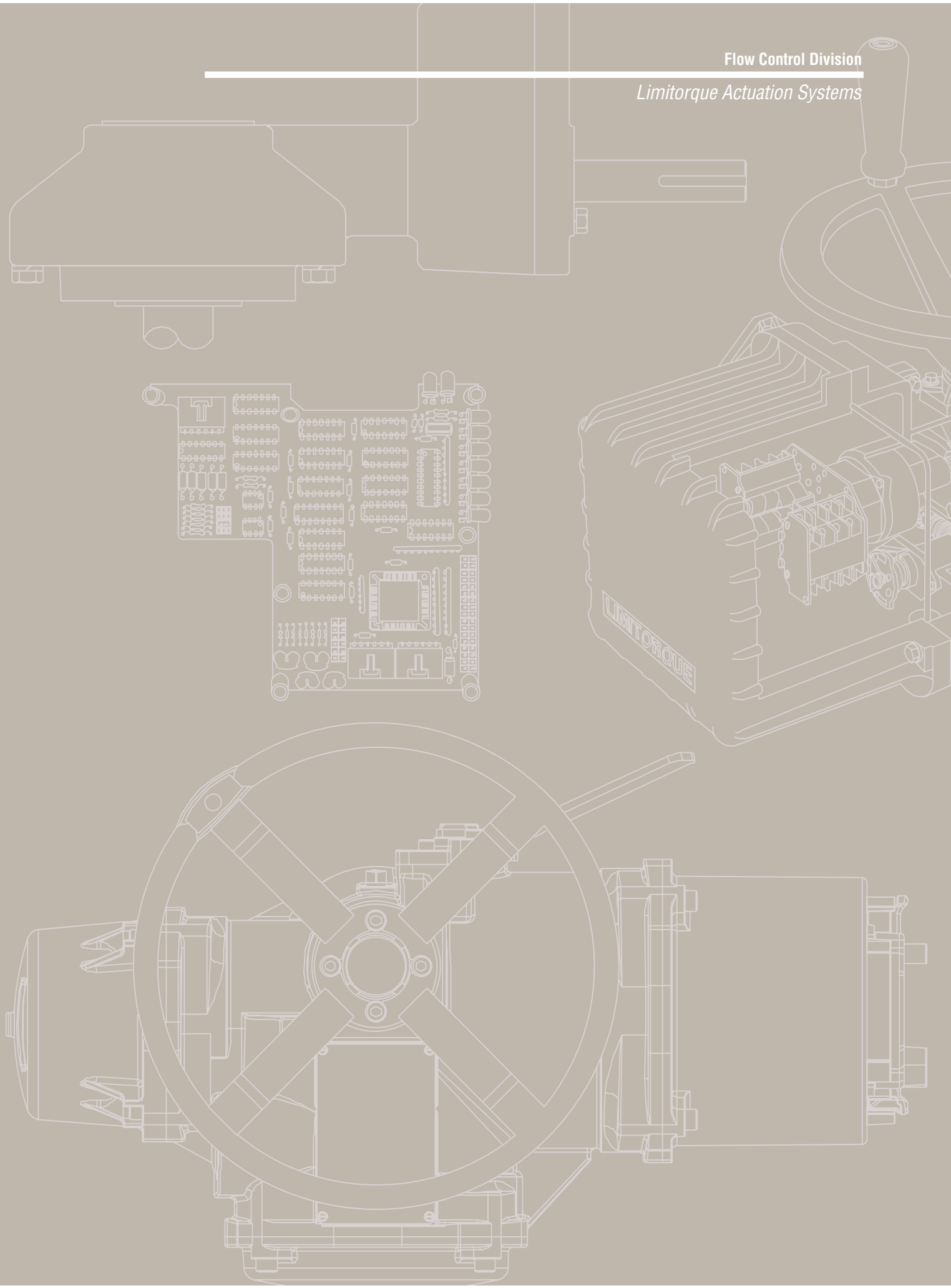

Limitorque Actuation Systems
(YES)
OPEN
Valve actuators and
control systems that
make valve control easier

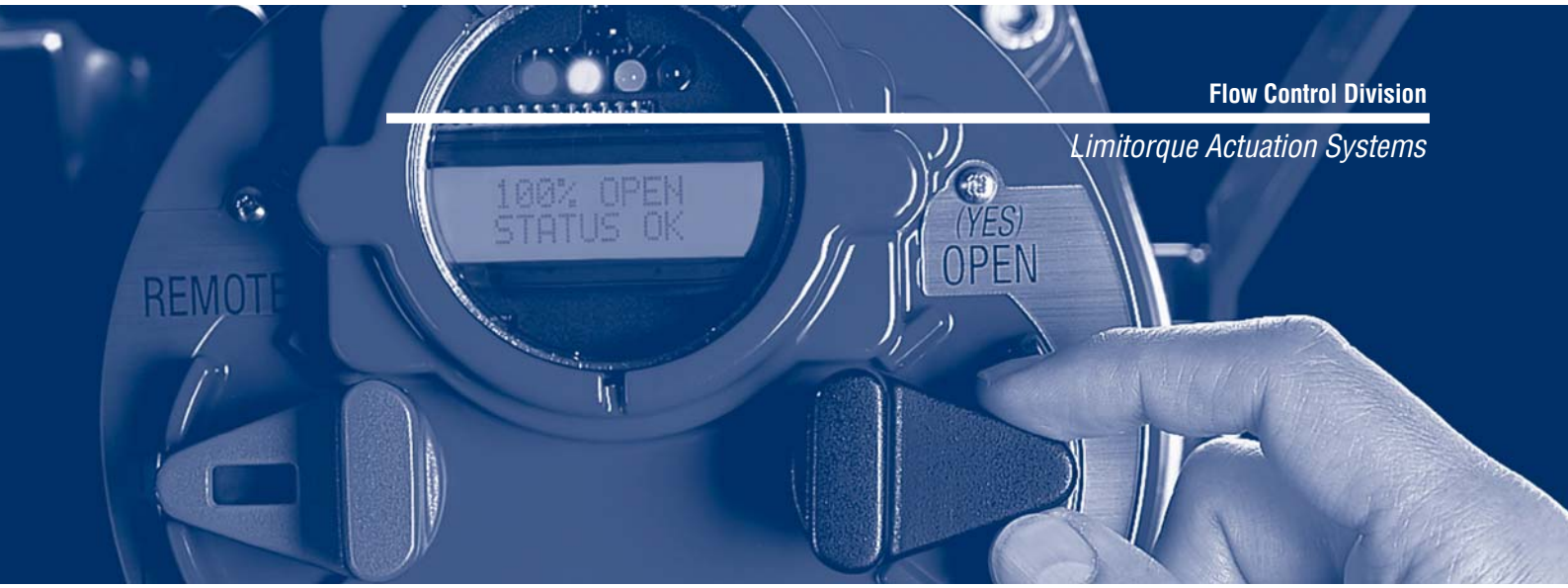
Flow Control Division

Limitorque Actuation Systems



Limitorque products help make valve control easier…

in ways as diverse as the applications in which they're used. Whether you need an actuator with the strength to handle a half-million foot-pounds of thrust, or a sophisticated control network to precisely orchestrate hundreds of valves, you'll find Limitorque products make the task easier. After nearly three-quarters of a century of experience in the field of valve control, Limitorque understands the particular needs of customers in every major facet of industry. Limitorque actuators are at work in more than 100,000 sites around the world, reliably automating valves in some of the harshest conditions imaginable: from scorching desert sands to frozen tundra, from rainforest humidity to the stormy salt spray of offshore oil rigs. Automating industrial valves can help increase safety, raise productivity, and reduce operating costs. You can rely on Limitorque for extraordinary valve control.



Accutronix MX Multi-turn Actuator

Valve control is easier than ever with high-tech, high-performance Accutronix MX multi-turn actuators, available with Modbus, Foundation Fieldbus, and Profibus DP or PA Network Protocols.

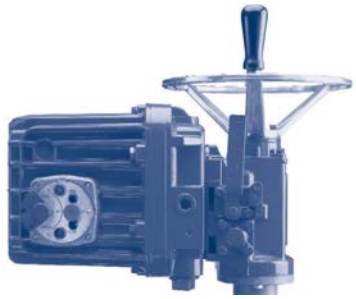
A 32-character LCD display provides easy-to-read actuator status, diagnostics, and setup information in the user's own language. This display works with local control switches to make commissioning and calibration quick and easy—and also enables the user to open, stop, and close the actuator and to select local or remote preferences.

The MX also offers unsurpassed accuracy with a 100%-repeatable absolute encoder, which provides optical sensing of valve position with 15-bit resolution and requires no battery.

Exclusive LimiGard™ internal monitoring circuitry ensures reliability. And the unit's double-sealed terminal chamber is separate from the control chamber, so operators have easy access to the terminal block without exposing control components to dust and moisture.

The Accutronix MX meets or exceeds all relevant specifications of major U.S. and international standards. It's also tested and certified for demanding environmental and operational conditions, including temperature extremes (to -50°C), electromagnetic interference, corrosive atmospheres, and XP environments.

Torque		Thrust		Output Speed
ft-lb	N m	lb.	kN	RPM
55-1700	75-2306	8000-75000	35-330	15-200



L120 Multi-turn Actuator

The L120 is a proven choice for any valve requiring either rotary or linear power. Whether gate or globe valves, sluice gates or pen stocks, the L120 performs reliably in any situation demanding positive, dependable actuation.

It can be used without modification with any rising or non-rising stem for linear-action valves. When combined with a Limitorque WTR-series quarter-turn gear operator, the L120 can be used to control butterfly, ball, and plug valves, as well as damper drives, flop gates, or any other device that requires 90° movement. L120 units can also be coupled with other gearheads such as Limitorque's HBC or B320 units for motorized operation of valves requiring increased torque and/or thrust.

The L120 is factory-lubricated and weatherproofed for service in temperatures ranging from –50°F to 150°F. Submersible and explosionproof versions are available. Weatherproof enclosures meet NEMA 1, 11, 4 and 6 standards, as well as IP68. Integral controls with printed board circuitry and plug-in modules are also available.

Torque		Thrust		Output Speed
ft-lb	N m	lb.	kN	RPM
50–60000	68–81600	10000–500000	44–2224	12–250

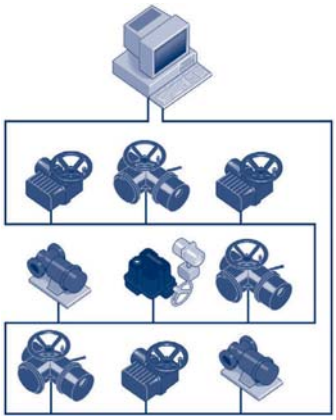
LY Quarter-turn Actuator

The LY Series actuators provide quarter-turn valve and damper operation in a compact, lightweight, and easy-to-mount unit. The LY incorporates mechanical adjustable stops for 90° rotation with ±10° adjustment, and can easily be modified for rotation of up to 360°. It requires no motor brakes or complex locking mechanisms.

Standard features include steel-on-bronze worm gear sets, anti-friction bearings throughout, and durable epoxy coating. Torque switches are interchangeable, double-acting, and fully adjustable. Declutch levers allow safe handwheel operation. Control compartment heaters prevent corrosion damage due to moisture caused by condensation. Motors can be three-phase or single-phase, and are thermally protected with class-F insulation.

LY units meet all AWWA C504-87 and C540-93 requirements, and are available in submersible, weatherproof, or explosionproof configurations. Integral controls with printed board circuitry and plug-in modules are also available.

Torque		Operating Time
ft-lb	N m	Seconds
200–1200	271–1627	15–60



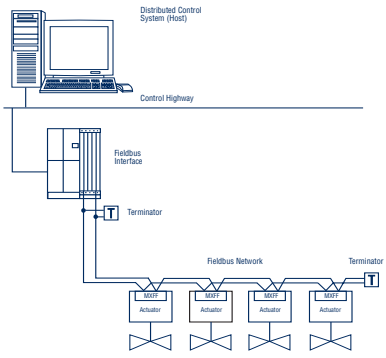
DDC-100 Valve Control Network

The DDC-100 valve-control network efficiently connects as many as 250 valve actuators directly to an existing host system without adding hardware or new equipment. The network's design also reduces the costs of engineering, cable, and installation.

With a simple and reliable communications path between the host system and the network, actuators and other devices (such as pumps and solenoids) can be efficiently automated and monitored from a central control room.

The system's open architecture is compatible with affordable Modbus protocols and communication standards, and is easily expanded to include Accutronix MX, UEC and DDC units. Limitorque's partnerships with host suppliers ensure that connection and programming can be smoothly accomplished with minimal equipment, effort, and cost.

The "bottom line" is that the Limitorque DDC-100 direct-to-host network simplifies valve operation, enhances control, and reduces costs.



Foundation Fieldbus H1

Limitorque's Foundation Fieldbus H1 interface for MX actuators uses an all-digital, serial, two-way communications system to permit a truly field-distributed control system.

Standard Function Blocks for Analog Output (AO), Digital Output (DO), and Digital Input (DI) are used to easily integrate the MX actuator into the plant control system. These standard Function Blocks permit a seamless interface to control and monitor the MX actuator with other filed instrumentation for increased visibility and control of the plant processes.

Other features of Foundation Fieldbus:

- Increased visibility of MX actuator status
- Reduced wiring and wire terminations
- Ease of configuration
- Open standard, non-proprietary fieldbus protocol

The MX FF unit may command its actuator to open, stop, close, move to a set position, or perform an emergency shutdown operation. Commands to the unit come over the network from the host system, which may be a Personal Computer (PC), Distributed Control System (DCS), Programmable Logic Controller (PLC), or some other microprocessor-based device. Commands may also be generated in another network actuator or device and transmitted over fieldbus using peer-to-peer, publisher/subscriber communication.

SMB Multi-turn Actuator

The eight models in the SMB-series range offer rugged dependability from the smaller SMB-000 through the industry's largest electric valve actuator, the SMB-5. An extensive selection of motors is available to suit various speed and voltage requirements. Optional controls include an integral reversing starter and control voltage transformer, a control station with pushbuttons for open/stop/close functions, position indicating lights, and Local/Off/Remote selector switch. The SMB is well suited to applications involving gate and globe valves, sluice gates, and other applications where long-term, uncompromised, reliable operation is critical. Fully qualified for use in nuclear power plants, the SMB is the recognized veteran of the nuclear power industry. The SB, a high-speed, high-temperature version of the SMB, is also available.

Torque		Thrust		Output Speed
ft-lb	N m	lb.	kN	RPM
91–60000	122–81350	8000–500000	36–2224	12–108

WTR Gearbox

The WTR-series worm gear operators are designed to operate butterfly, ball, and plug valves, or other devices requiring 90° operation. WTR units can be manually operated with a handwheel or wrench nut, or automated with an L120 and MX series electric actuator. The removable splined adapter simplifies alignment with the valve stem keyway for more convenient installation. A spur gear attachment or electric actuator can easily be added. The WTR operators are designed to perform in both Commercial and AWWA-service applications. Commercial-service units use ductile iron worm gears. AWWA-service units, built to meet AWWA C504-87 and C540-93 standards, use high-strength alloy bronze worm gears. Both Commercial and AWWA designs feature weatherproof construction with a built-in position indicator; buried or submersible units feature sealed housing covers and corrosion-resistant shafts. Weatherproof WTR units meet Nema 6 and IP67 standards; buried/submersible WTR operators are suitable for IP68 service.

Torque	
ft-lb	N m
1000-70000	1340–93846

B320 Bevel Gear Operator

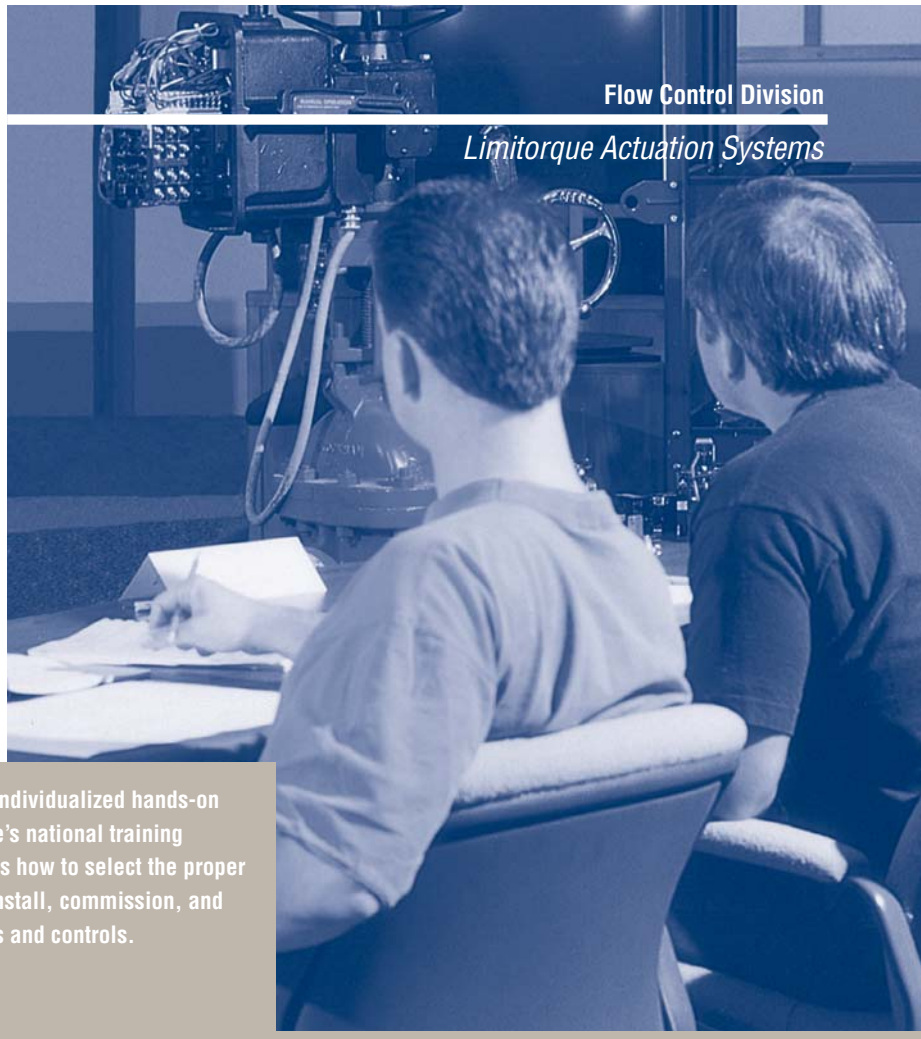
Limitorque's B320-series worm gear operators excel in highly specialized applications. Whether controlled manually or automatically with either L120 or MX actuators, B320 operators are ideal for any multi-turn application requiring accurate, reliable performance. They are used with gate and globe valves, and sluice gates in power plants, petrochemical installations, pipelines, and water and waste treatment facilities. All units are fully weatherproofed, with gearing crafted from high-strength alloy steel for dependable operation with minimum backlash. They are also permanently lubricated and fully supported on anti-friction bearings.

Torque		Thrust	
ft-lb	N m	lb.	kN
300-12000	407–16270	15000–425000	67–1890

HBC Gearboxes

The HBC-series worm gear operators excel in highly specialized applications. Their rugged dependability has been proven in the nuclear power industry, large damper operations, and power plant flue gas desulphurization. Whether controlled manually with L120, MX, or SMB actuators, HBC's are ideal for any quarter-turn application requiring accurate, reliable, uncompromised performance. They are commonly used with butterfly, ball, and plug valves in power plants, petrochemical installations, pipelines, and water and waste treatment facilities. Units are fully weatherproof, and built to meet AWWA and buried services requirements.

Torque	
ft-lb	N m
445–93000	603–126090



The latest valve control technology comes with full technical support

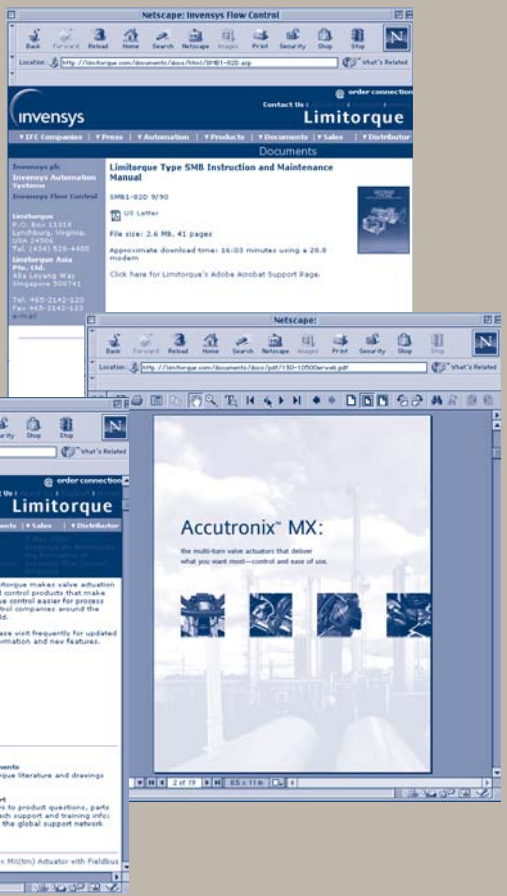
Limitorque's determination to make valve control easier is reflected in a comprehensive customer support program.

Support begins before the sale, when customers turn to Limitorque's experts for technical assistance in selecting the proper equipment. After the sale, Limitorque customers are backed by 200 factory-trained service technicians, stationed around the globe, who are available to assist with installation, commissioning, and maintenance.

Limitorque customers find their needs met by factories, stocking distributors, parts/service centers and sales offices in more than 100 cities around the world. This global Limitorque network ensures that the end-user, engineer, contractor, or valve manufacturer can access Limitorque through a local office.

Customers can receive individualized hands-on instruction at Limitorque's national training facility. Training includes how to select the proper equipment and how to install, commission, and maintain valve actuators and controls.

Online documentation (from http://www.limitorque.com) includes sales brochures, specification bulletins, and installation and operation manuals.



Internet technology also plays a part in our customer service support program. Using Limitorque's web site, customers can access key information around the clock, including product specifications and local service contacts. Customers can also use Limitorque's web site for downloading sales and technical literature from Limitorque's ever-growing library of detailed documentation.

To make valve control as easy as possible for operations personnel, Limitorque offers extensive training options for all major Limitorque products. Programs can be tailored to fit a customer's particular needs.

Customers worldwide rely on Limitorque's commitment to technical support.

Australian Distributor for Limitorque

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