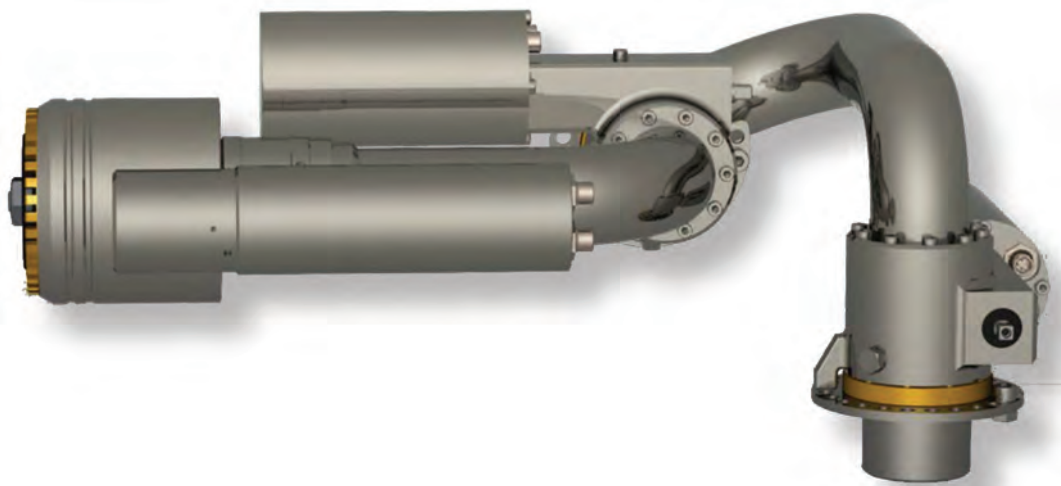


# FORCE50 with INTEG50 jet/spray tip



- Heavy duty industrial robotic nozzle
- Integ 50 firefighting robotic tip (see Integ 50)
- Stainless steel 316L pipe and worm gears
- Industrial robotic brushless DC motors (BLDC)
- Laser-welded IP68 motor enclosure
- M12 fully sealed IP67 multi-connectors
- Position feedback accuracy better than 1/100°
- Up to 38°/sec rotation speed
- Over 360° Horizontal Movement (set any range by software)
- Over 180° Vertical Movement (set any range by software)
- 50 mm internal pipe diameter
- Virtually maintenance-free
- Light weight: 18 Kg (40 lbs.) including nozzle
- Max Flow: 2000 lpm @ 10 bars (530 US gallons @ 145 psi; 120 m3/hr)
- Max Reach: 65 meters
- Connection by 2" male BSP or flange (ANSI, DIN, JIS)



Part Number(s):  
FORCE50BLDC  
INT50124BLDC

# X-TARGA

## Robotic Nozzle PLC cabinet



TARGA PLC in IP66 heavy duty industrial cabinet for the toughest of environments.  
Built-in power converter 100-230VAC/24VDC(20A)

#### SPECIFICATIONS:

- TARGA robotic nozzle PLC with up to six (6) BLDC drivers
- TARGA mounted in RITTAL cabinet type: AE 1045.500
- IP66 protection
- ROXTEC cable gland EzEntry10
- Powder coated
- Dimensions: 500 x 400 x 210 mm
- Large number of digital and analogue inputs and outputs; fully programmable & expandable
- Simple, quick installation with M12 multi-connectors
- Connect pressure and flow gauges, push-button controls, "panic-button", etc.
- Fully programmable
- USB-port for simple software upgrades

Part Number(s):

X-TARGA2  
X-TARGA3  
X-TARGA4  
X-TARGA5  
X-TARGA6

Delta Fire Ltd. Wendover Road Rackheath Industrial Estate Norwich NR13 6LH  
Tel: +44 (0)1603 735000 Fax: +44 (0)1603 735009 sales@deltafire.co.uk www.deltafire.co.uk

Delta Fire Limited Registered in England No. 2517391

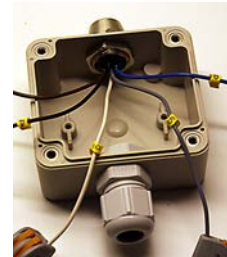
# CABLES with M12 Connectors



- M12 shielded cables for Unifire BLDC mMotors & joysticks
- Quick & simple installation
- Extremely well sealed when connected
- 5 meters (standard).
- Connect two or more joystick cables to extend to any length, in 5-meter increments
- BLDC motors require 2 cables each—one 5 pin (PN: M1255) and one 3 pin (PN: M1253)
- Unifire joysticks require a 5 pin M12 cable (PN: M1255)
- Spiral joystick cables available in 2 and 5 meter lengths
- Power cable: PN FOR00415 (inquire for price)

Part Number(s):  
M1255 (5-pin for motor sensor and Joystick)  
M1253 (3 pin for motor phases)

# CANbus Connection Box for Unifire Joysticks

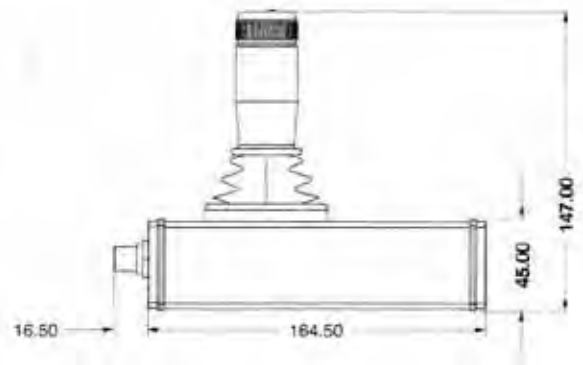


- Ideal for marine, industrial and other applications when you wish to extend the joystick cable a long distance.
- Allows simple extension of joystick cable to up to 500 meters.
- Run standard installation cable from TARGA or X-TARGA PLC to location from which you wish to install the joystick; connect it to the connection box; attach to joystick cable via quick M12 connector.

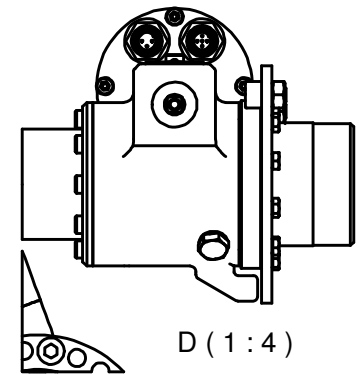
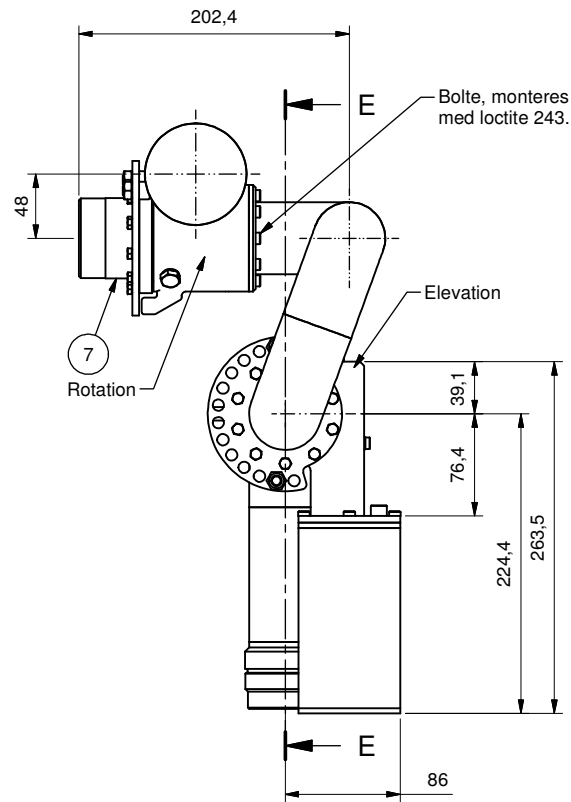
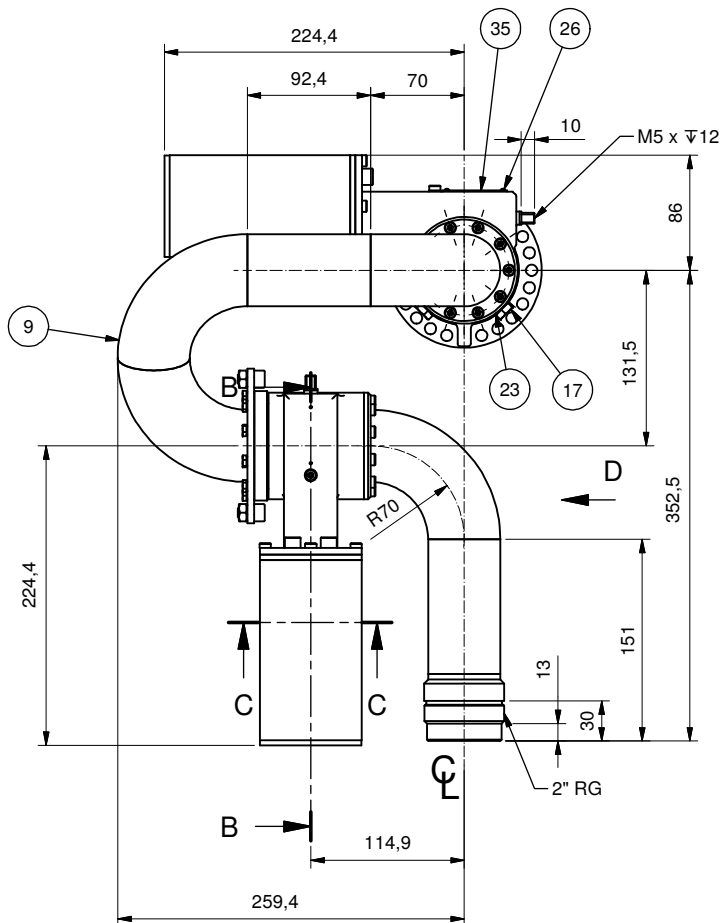
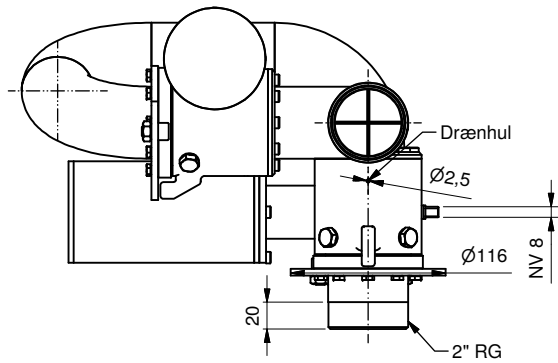
Part Number(s):  
FOR00150

# JOYSTICK PI

## CANbus Joystick Controller



- Multifunctional CANbus joystick
- Intuitive, progressive speed control
- 2- or 3-Axis control (horizontal, vertical, nozzle)
- Nozzle spray pattern controlled by dial on tip of joystick shaft
- Record / Play - Record any sequence including velocity changes, pauses, & nozzle spray pattern. Play back in a continuous loop.
- Programmable park (stow) function
- LED Position Indicators for relative horizontal, vertical and nozzle positions
- Valve Control Button
- 2 auxiliary buttons for custom configuration & control of peripherals (e.g., lights).
- Up to 500 meter cable supported
- Hand-held
- Weighs only 1 Kg

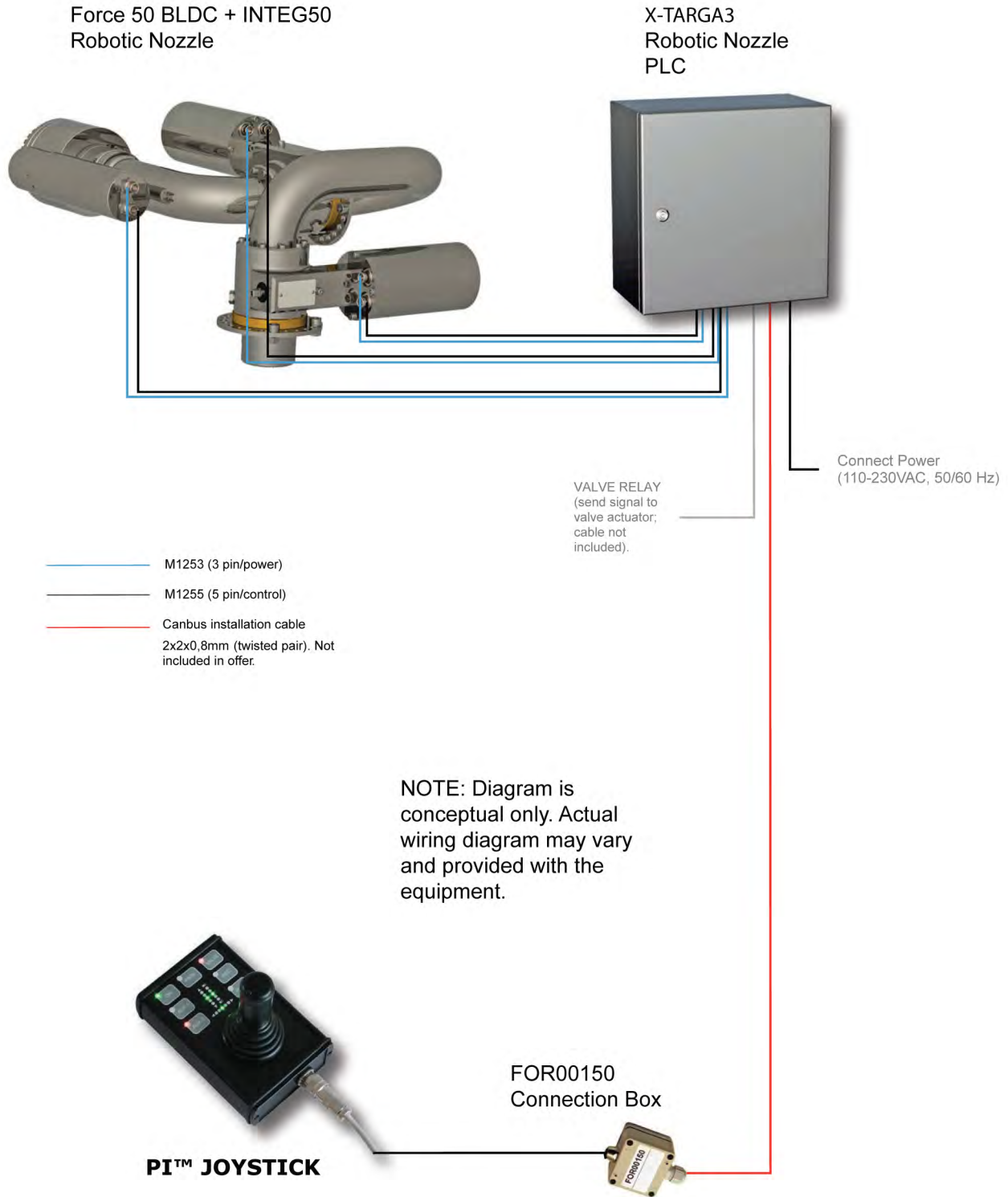


139-009

$\sqrt{}$ = $\sqrt{}$ $\sqrt{}$ = $\sqrt{}$ $\sqrt{}$ = $\sqrt{}$ $\sqrt{}$ = $\sqrt{}$		$\sqrt{}$ = $\sqrt{}$ Ra 1.6 $\sqrt{}$ = $\sqrt{}$ Indstiksløbes $\sqrt{}$ = $\sqrt{}$ U Ra 0.5 $\sqrt{}$ = $\sqrt{}$ L Ra 0.3 $\sqrt{}$ = $\sqrt{}$ U Ra 18 $\sqrt{}$ = $\sqrt{}$ L Ra 8		Format: A3 Sign.: FJE Dato: 20-08-2014 Vægt: 10,54 kg	
Non-toleranced measures acc. DS/ISO 2768-f. Deburr sharp edges.		Standard: 1:4		FORCE 50, Chassis udv. 39:1 BLCD Motor	
The above stated only applies production drawings.				FORCE50BLDC	
				Page: 1 F	

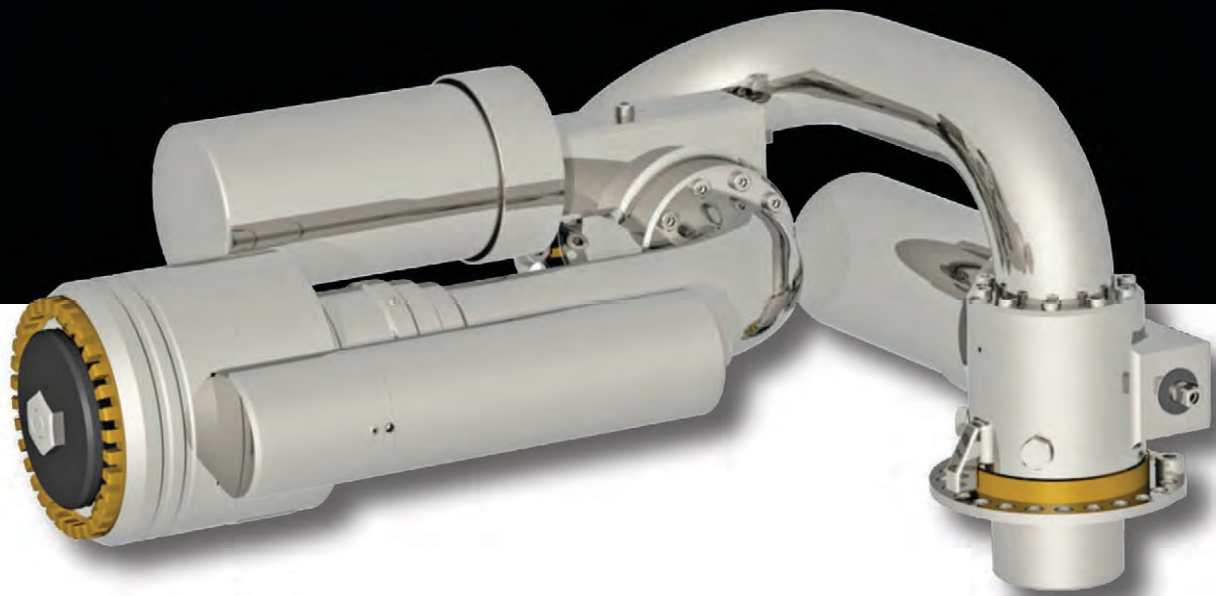


## System Layout



# FORCE 50

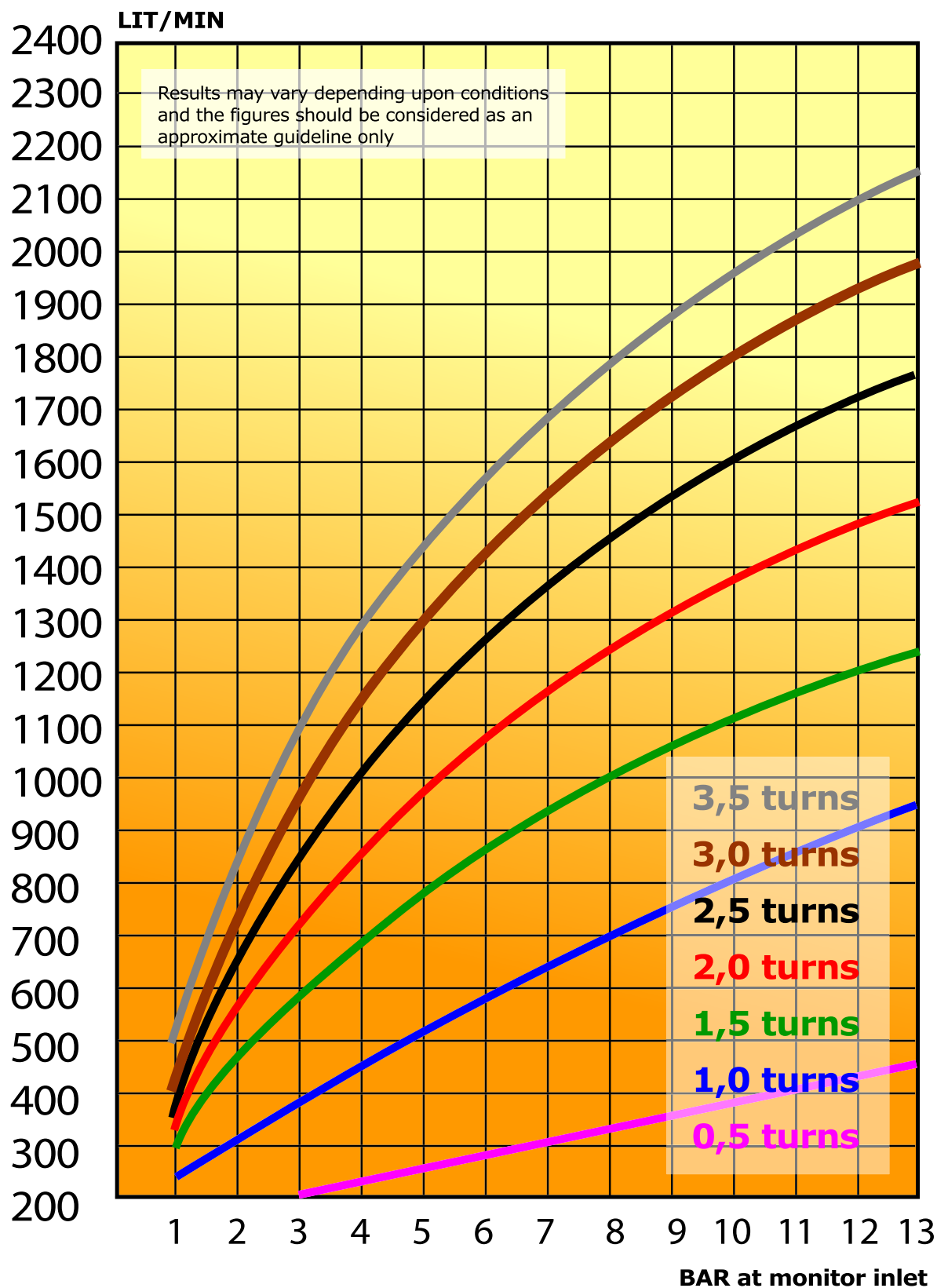
FLOW & REACH  
CHARACTERISTICS



The future of firefighting

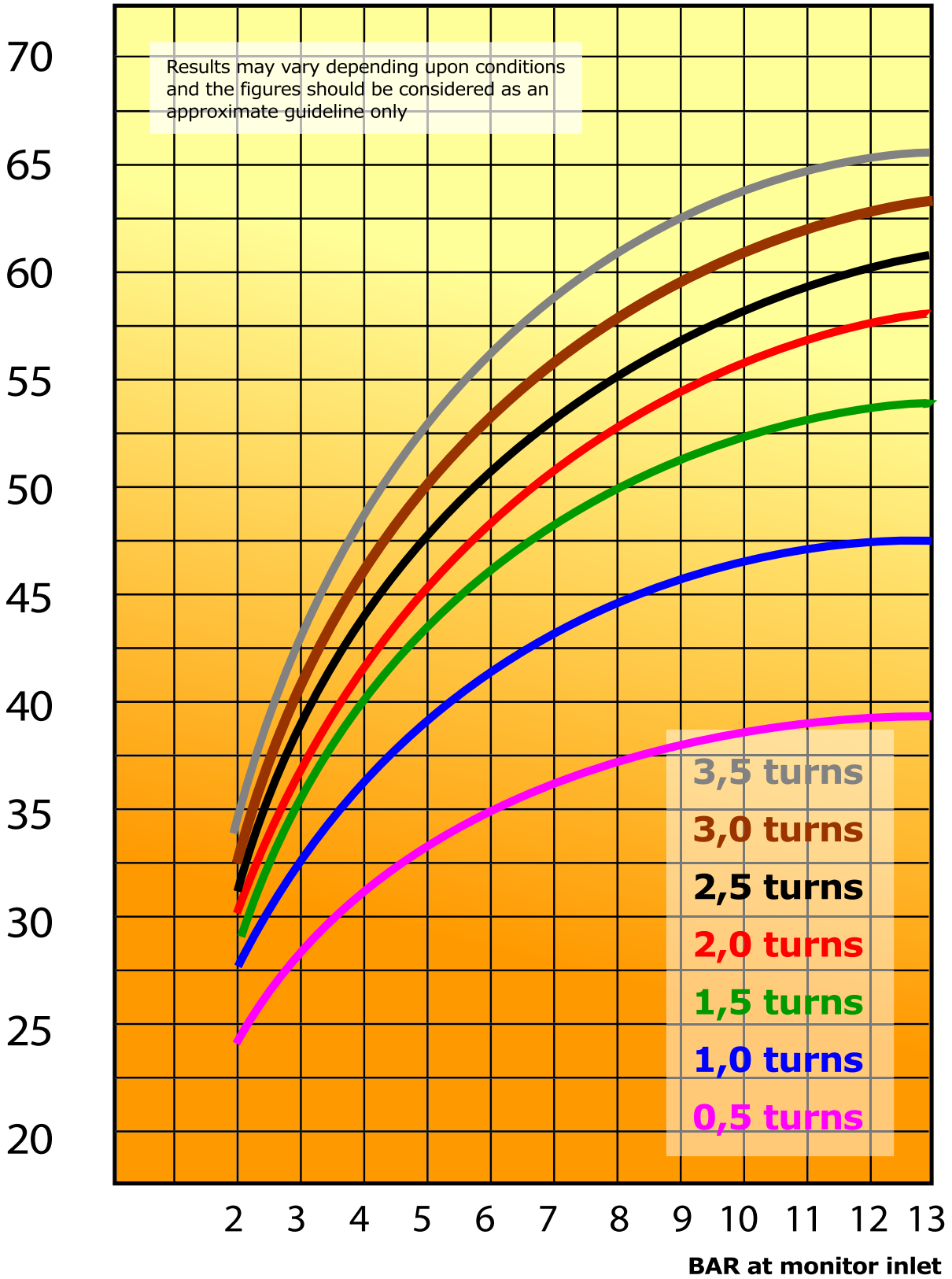


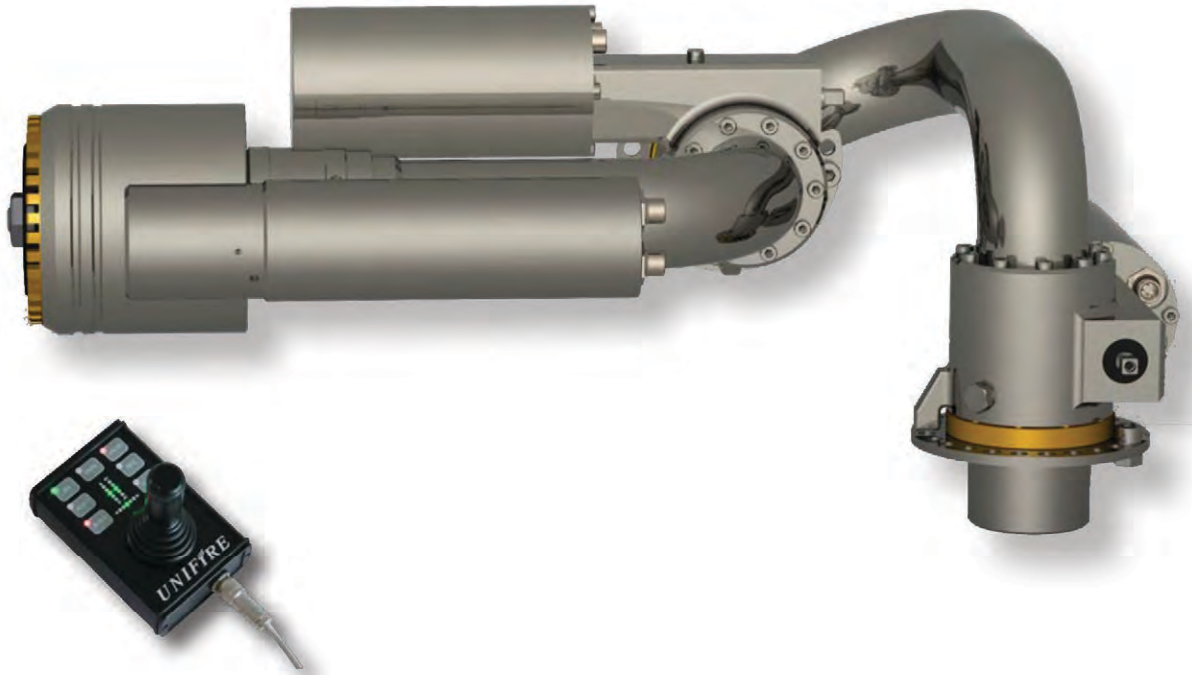
# Flow chart with INTEG 50 nozzle



# Reach chart with INTEG 50 nozzle

Meters effective reach at 35° elevation angle





# FORCE 50 SPECIFICATIONS

Item / Feature:	Description:
Force 50 BLDC Robotic Nozzle Chassis:	<p>2" electric 24V brushless motor (BLDC) robotic nozzle (a.k.a. "remote control monitor" or "water cannon") suitable for firefighting.</p> <p>Made of 316L Stainless Steel (EN1.4404).</p> <p>Flows up to 2000 lpm at 10 bars. Robust and suitable for harsh environments. Compatible with use of foam, salt-water, and other harsh agents.</p> <p>Smooth, large (50mm) pipe bends for minimal friction loss.</p> <p>Fully integrated and enclosed stainless steel worm gears, with Bronze (CuSn12) gear wheels.</p> <p>Fully enclosed BLDC brushless motors provide extremely long life, high torque and allow extremely accurate positioning and position feedback.</p> <p>Modular design for capability of changing damaged pipe sections and gear housings.</p> <p>Very low-maintenance; never requires re-greasing.</p> <p>Mass: Approx. 15 kg without nozzle.</p> <p>Dimensions: 50 x 35 x 22 cm.</p> <p>Ambient temperature range: -25°C to +70°C.</p>
INTEG 50 Jet/Spray Nozzle TIP:	<p>2" electrically adjustable jet/spray firefighting water/foam nozzle. Generates a full, effective fog cone.</p> <p>Step-less, adjustable spray angle from straight stream, over narrow spray to 140° spray.</p> <p>Stainless steel 316L, remote controlled.</p> <p>Fully enclosed BLDC brushless motors provide extremely long life, high torque and allow extremely accurate positioning and position feedback.</p> <p>Fully integrated gear drive mechanics and integrated DC motor. Multi-connector for quick and simple installation.</p>
JETRANGE 50 Tip:	<p>Stainless steel 316L, 2" nozzle tip provides tight jet stream. Changeable flow discs (baffles) for flows ranging up to 2000. For use with fresh- or salt-water, foam, dyes, and other harsh agents.</p>
Monitor connection input:	<p>2" male BSP, or DN50 or DN65 Flange. ANSI or JIS flange optional.</p>
Monitor Range of Motion:	<p>360° horizontal; 180° vertical (+/- 90° from horizontal). Range can be easily set to any range desired. (May be limited if used with POINTER controller to 270° horizontal / - 20°/+ 70° or other custom specification. Inquire to learn more.)</p>
Monitor Movement Velocity:	<p>18°/sec. rotational; 12°/sec. vertical Optional high-speed rotational motors of: 38°/sec.</p>
Progressive, multi-directional movement:	<p>Progressive speed control from extremely slow to full speed; simultaneous movement horizontally, vertically and nozzle jet/spray pattern control.</p>
Programmable end positions	<p>End positions are set by software to any angle desired. Avoids wear and tear on motors, such as occurs with competing brands with mechanical hard stops.</p>

Item / Feature:	Description:
Flow Range:	500 to 2000 liters (130 to 530 U.S. gallons) per minute. Integ 50 jet/spray tip is mechanically adjustable to accommodate various flows. JETRANGE 50 tip has interchangeable flow discs to meet your flow requirements.
Operating Pressure	Recommended pressure range: 5-12 bar. Max 16 bar.
Maximum Reach:	Approximately 65 meters at 2000 liters per minute at 10 bars in jet stream mode. Reach at 2500 lpm/10 bar: approx. 65 meters. Actual results may vary depending on a number of factors (piping, valves, pump, wind, etc.)
Record & Play:	Simple record and play buttons to record all movements of the monitor and nozzle. Playback loops until interrupted by the operator.
Programmable Park Position:	Monitor control system features an easy to record park (stow) position and a button for taking monitor to the park position.
Electric connection points:	M12 Multi-connectors on monitor and joystick electrical connections, allowing for quick installation, troubleshooting and replacement.
PI Joystick:	<p>Light weight (1 kg), IP67 CANBUS (extended frame format - 29 identifier bits) Joystick with:</p> <ul style="list-style-type: none"> <li>Programmable park (stow) position;</li> <li>Progressive speed control;</li> <li>Nozzle spray pattern dial located on the tip of the joystick shaft allowing full-range of step-less adjustment (from jet to spray and everything in between);</li> <li>Position feedback LED indicators on joystick panel to indicate relative position horizontally, vertically and nozzle pattern;</li> <li>Record and play feature;</li> <li>Two auxiliary device control buttons (such as for a valve, light, etc.).</li> <li>M12 multi-connector on joystick for quick replacement capability.</li> <li>Weight: approximately 1 kg.</li> <li>(Variety of controllers available with varying specifications.)</li> </ul>
Modular Design:	Modular design for quick replacement of all major components, including water cannon's gears and pipe sections, joystick, circuit boards, electronic control box, cables, and motors.
TARGA PLC (CPU / Electronics Box)	Up to 6 x BLDC high resolution motor drivers. Up to 1/100° positioning accuracy and high speed movements. Each motor driver has its own memory and processor, up to 100W each. 4 digital inputs (programmable), 6 analogue inputs (analogue sensors and detectors, or analogue joystick signal, all programmable). 2 CAN bus (uniCan or CANopen); RS485 (profibus, modbus, DMX, etc.); I2C and SPI ultra-fast connection (e.g., EtherCat or other industrial Ethernet); 2 H-bridges, 4 digital outputs (4,8A); 4 Analogue outputs (4.0A). Not IP rated and should be placed in clean, protected environment. IP66 enclosure optional.
X-TARGA Industrial / Marine MCU	TARGA MCU (see above) in stainless steel enclosure (typically 40x50x21cm) with integrated 100-230 VAC - 20A/24VDC converter. Terminal sockets for connecting power an Canbus. Fuses. Relays for valve control.