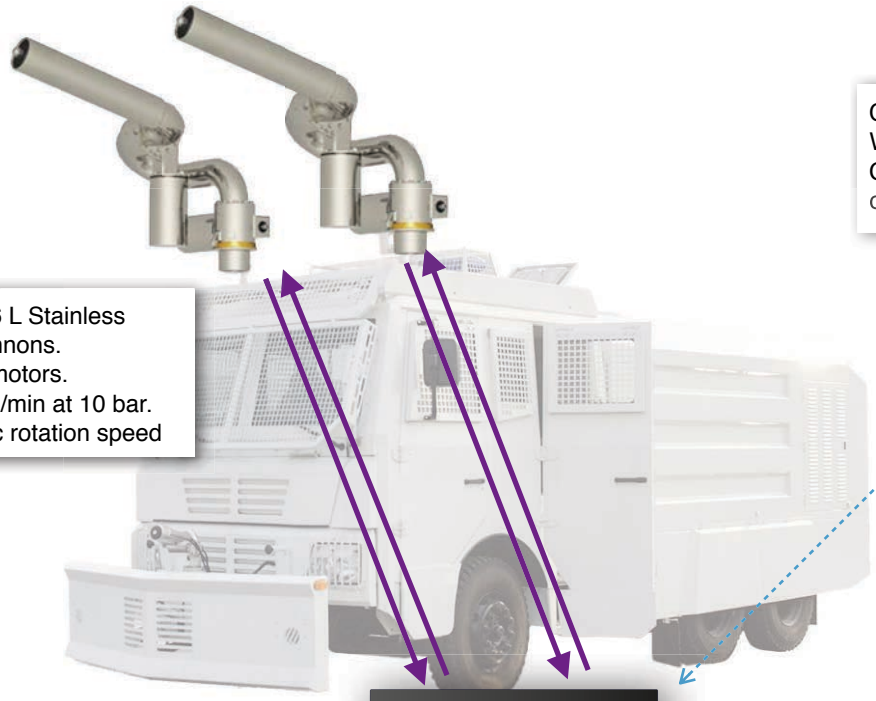
UNIFIRE

FORCE Robotic Water Cannons for RIOT CONTROL

MORE *FORCE* THAN EVER BEFORE

Tel: +46 303 248 403 Email: sales@unifire.com

Unifire Dual Riot Cannon System



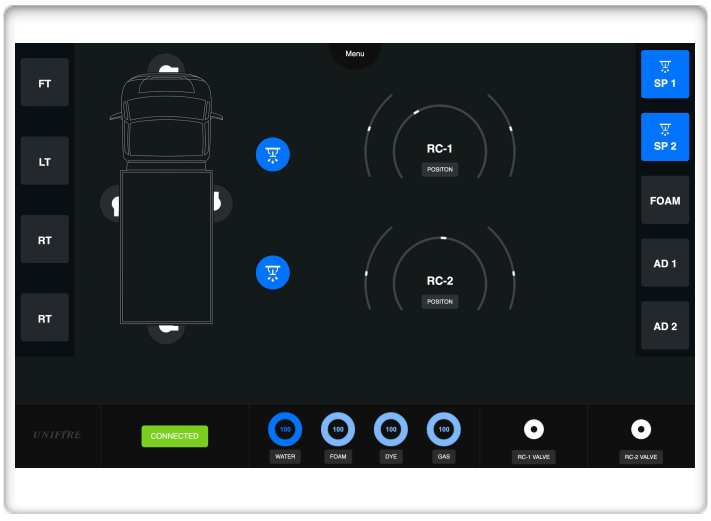
F50R-LT 316 L Stainless Steel riot cannons.
With BLDC motors.
up to 2000 lit/min at 10 bar.
up to 38°/sec rotation speed

Optional (encrypted) WiFi connection. Control from Tablet or Smart phone.

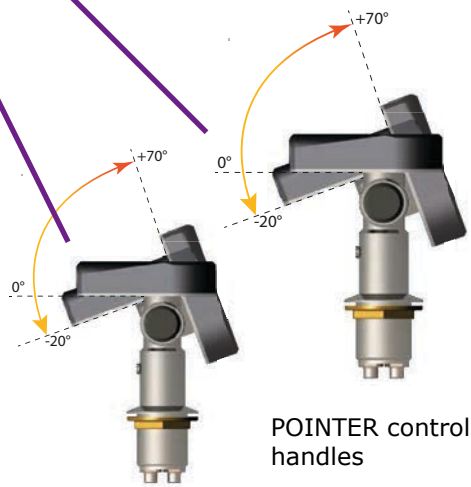
TARGA PLC with UniWeb server analogue and digital in- and outputs

- VALVE 1 (foam)
- VALVE 2 (dye)
- VALVE 3 (gas)
- Pressure gauge
- Flow meter
- Tank level gauge 1
- Tank level gauge 2
- Tank level gauge 3

All information is displayed and controlled from a generic standard display or touchscreen.



TOPAZ Vehicle Control System
Graphical User Interface



POINTER control handles

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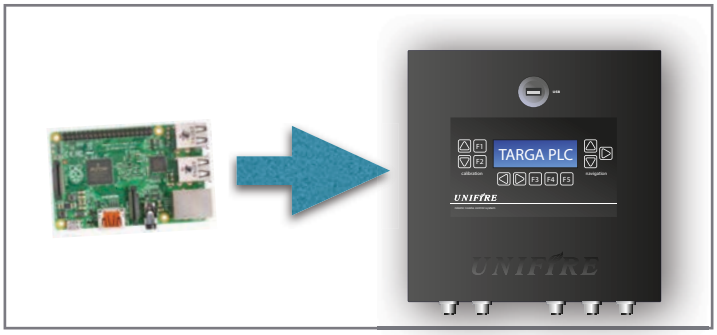
Introducing the UniWeb Control System

It's both a *A HUMAN USER INTERFACE* and *A TCP/IP NETWORK SYSTEM* based on ultra modern INTERNET/ WEB TECHNOLOGY. This is the world's first, truly contemporary control system for robotic nozzles, making full use of the last decades of insane technical development in the computer world. Faster - much faster, much smaller and much cheaper computing power. The UniWeb system was unimaginable only a few years ago.

Unifire's UniWeb™ control system is what we get when we pair the already uniquely competent UNIFIRE TARGA Robotic Nozzle PLC, with a miniature 900 MHz LINUX PC. This allows all of the functions of the TARGA PLC to be accessed, displayed and controlled from any standard web-browser.



All analogue and digital inputs and outputs of the TARGA PLC can be displayed and controlled over the embedded PC's web server. This includes, for example, tank levels, pressure gauges, flow meters, temperature gauges, valve end-position switches, lights, etc.

The system can also display the status of all motor drivers, position data, current and voltage readings and more. The robotic nozzles can be controlled from any standard web-browser. In other words, any PC, Tablet or smart-phone.

The TARGA PLC can also be remotely reprogrammed and upgraded.

It is simple to produce a custom display layout, with any system information desired, including language versions, color schemes, logos, etc.

Introducing the POINTER Synchron control handle

The POINTER provides natural and intuitive control of the FORCE robotic nozzle. The stream is aimed in the same direction and elevation angle as the POINTER. This provides the operator perfect control and immediate feedback without even using his eyes.
Your hand tells you where the nozzle is aiming, allowing the operator to focus on the outside situation.

The POINTER provides an absolute operating range of -20 to +70°, and +/-135°. Thus, the FORCE robotic nozzle is also limited to the same range when controlled with the POINTER.

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ROBOTIC NOZZLE PACKAGES

PACKAGES - TAILORED TO YOUR NEEDS

Unifire's systems are modular and highly flexible.

The following packages are just some of our best-selling system configurations.

But the possibilities are endless.

Whether you're looking to use your own joystick, or you require a special controller, or if you want a complex, fully-networked and fully automatic fire detection and suppression system—we can easily do that!

Just contact us at sales@unifire.com for a system that's tailored exactly for you.

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ROBOTIC NOZZLE PACKAGE 1

Robotic Nozzle:	FORCE50BLDC	FORCE50 316L stainless steel robotic nozzle with BLDC motors. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Robotic Tip:	INT50124B	INTEG50 BLDC jet/spray robotic nozzle tip with BLDC motors & integrated gear mechanics
PLC:	TARGA3	TARGA3 Robotic Nozzle PLC. 3 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR110	POINTER Synchron controller with button for triggering valve open/closed & nozzle control scroll wheel.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.

Packages presented as examples only. Infinite number of combinations are possible.

Part Number(s):
FORCE50BLDC
INT50124B
TARGA3
PTR110
4 x M1255
4 x M1253
1 x FOR00415 power cable

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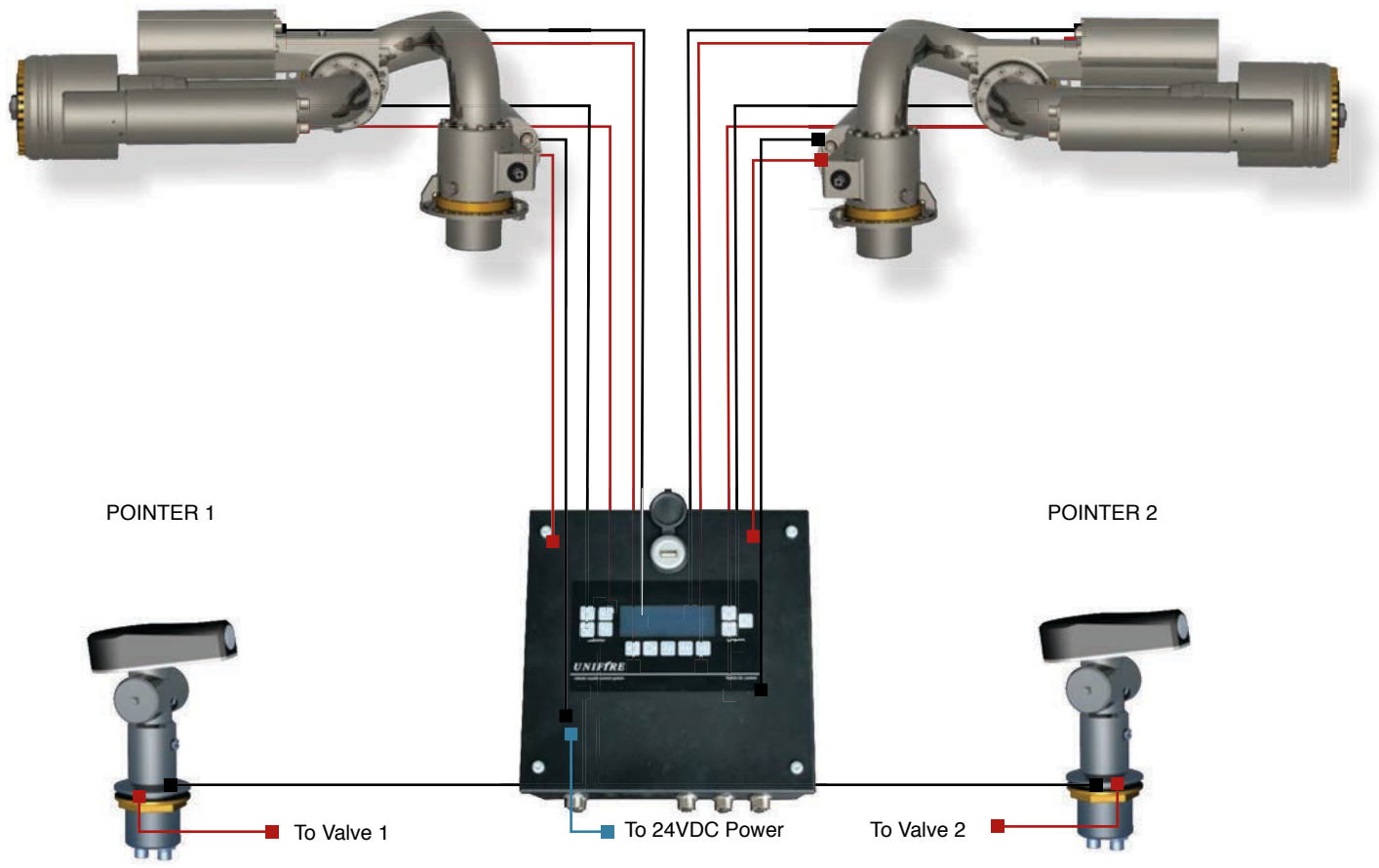
ROBOTIC NOZZLE PACKAGE 2

Robotic Nozzle:	2 x FORCE50BLDC	FORCE50 316L stainless steel robotic nozzle with BLDC motors. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Robotic Tip:	2 X INT50124B	INTEG50 BLDC jet/spray robotic nozzle tip with BLDC motors & integrated gear mechanics
PLC:	1 x TARGA6	TARGA6 Robotic Nozzle PLC. 6 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.



Part Numbers
FORCE50BLDC
INT50124B
TARGA6
PTR101
M1255
M1253
FOR00415 (power cbl)

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ROBOTIC NOZZLE PACKAGE 3

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Robotic Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA2	TARGA2 Robotic Nozzle PLC. 2 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.

Packages presented as examples only. Infinite number of combinations are possible.

Part Number(s):
F50R-LT
TARGA2
PTR101
3 x M1255
3x M1253
1x M1253
1 x FOR00415 power cable

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ROBOTIC NOZZLE PACKAGE 4

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turret:	F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA3	TARGA3 Robotic Nozzle PLC. 3 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.

Part Number(s):
F50R-LT
F50-ST
TARGA3
PTR101
4 x M1255
4x M1253
1 x FOR00415 power cable

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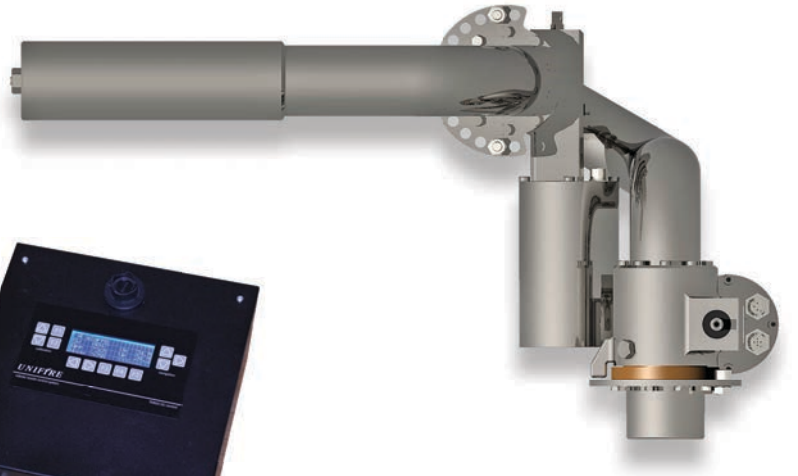
ROBOTIC NOZZLE PACKAGE 4

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turret:	F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA3W	TARGA3W Robotic Nozzle PLC with UniWeb for display output/control (graphical user interface sold separately). 3 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.



(Graphical User Interface sold separately)

Part Number(s):
F50R-LT
F50-ST
TARGA3W
PTR101
4 x M1255
4x M1253
1 x FOR00415 power cable

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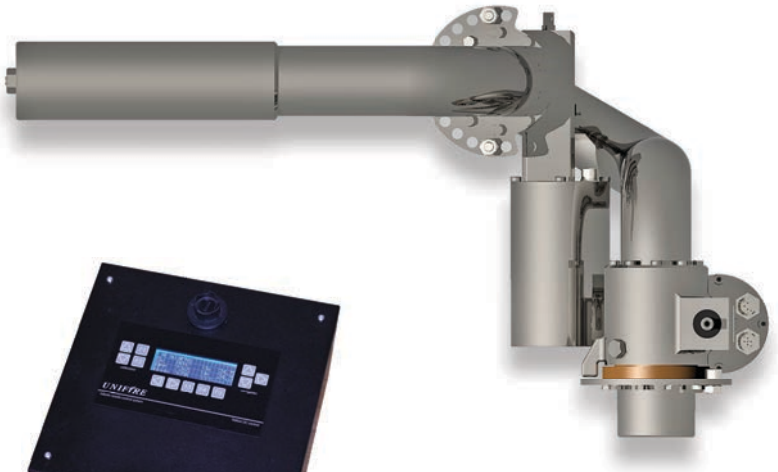
ROBOTIC NOZZLE PACKAGE 5

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turret:	2 x F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Nozzle Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA4	TARGA4 Robotic Nozzle PLC with 4 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.



Part Number(s):
F50R-LT
2 x F50-ST
TARGA4W
PTR101
5 x M1255
5x M1253
1 x FOR00415 power cable

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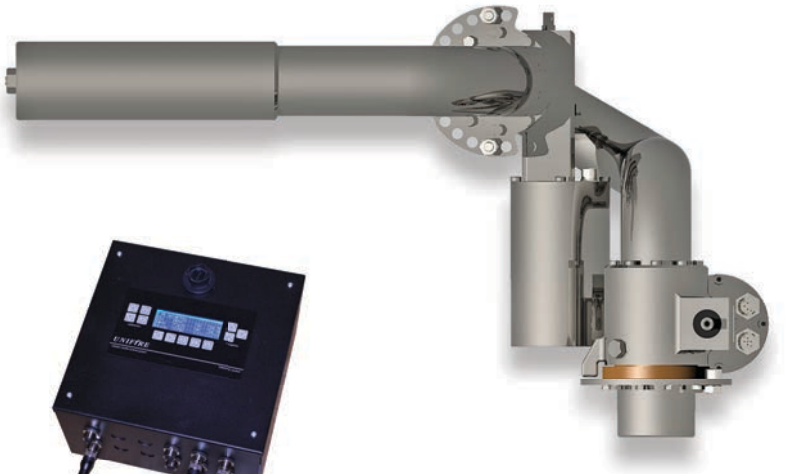
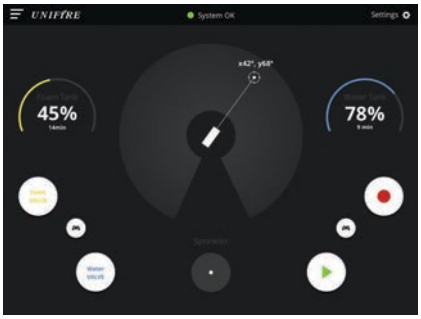
ROBOTIC NOZZLE PACKAGE 6

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turret:	2 x F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Nozzle Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA4W	TARGA4W Robotic Nozzle PLC with UniWeb for display output/control graphical user interface sold separately). 4 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.



(Graphical User Interface sold separately)



Part Number(s):
F50R-LT
2 x F50-ST
TARGA4W
PTR101
5 x M1255
5x M1253
1 x FOR00415 power cable

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ROBOTIC NOZZLE PACKAGE 7

Robotic Nozzle:	2 x F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turrets:	2 x F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Nozzle Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA6	TARGA6 Robotic Nozzle PLC with 6 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.

Part Number(s):
2 x F50R-LT
2 x F50-ST
TARGA6
2 x PTR101
8 x M1255
8x M1253
1 x FOR00415 power cable

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ROBOTIC NOZZLE PACKAGE 8

Robotic Nozzle:	2 x F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turret:	2 x F50-ST	F50-ST side turret with BLDC motor riot vehicle protection & V16 nozzle tip with heavy rubber bumper (500 lpm at 10 bars).
Robotic Nozzle Tip:	JETRANGE 50	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA6W	TARGA6 Robotic Nozzle PLC with UniWeb for display/control from cab (graphical user interface sold separately). 6 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable and 1 x M12 3-pin to valve. Standard cable length is 5 meters.

(Graphical User Interface sold separately)

Part Number(s):
2 x F50R-LT
2 x F50-ST
TARGA6W
2 x PTR101
8 x M1255 @ 200 each
8x M1253 @ 200 each
1 x FOR00415 power cable

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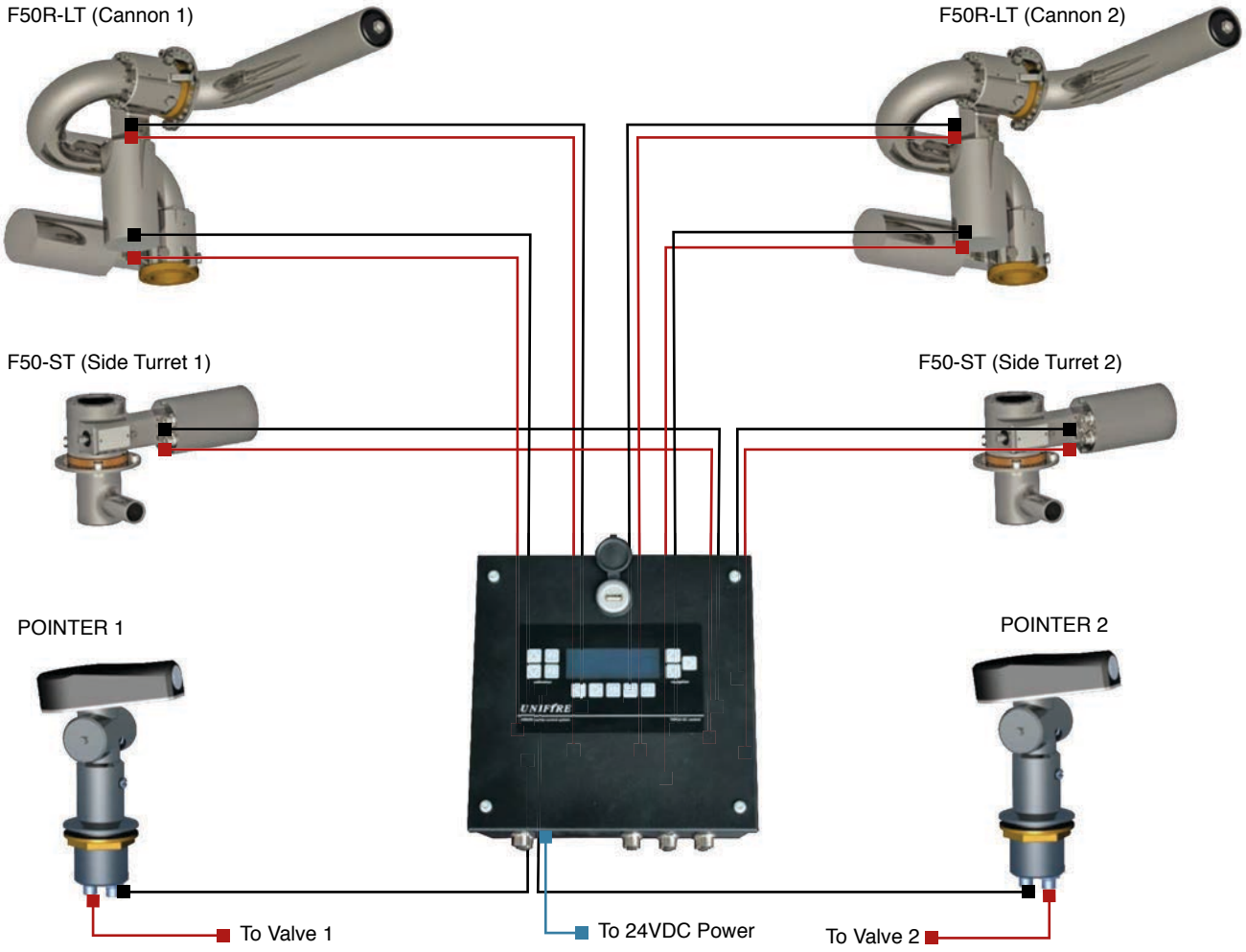
ROBOTIC NOZZLE PACKAGE 9

Robotic Nozzles:	2 x F50R-LT + 2 x F50-ST	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip; & 2 F50-ST Side Turrets. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA6	TARGA6 Robotic Nozzle PLC. 6 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.



Packages presented as examples only. Infinite number of combinations are possible.

Part Numbers
F50R-LT
F50-ST
TARGA6
PTR101
M1255
M1253
FOR00415 (power cbl)

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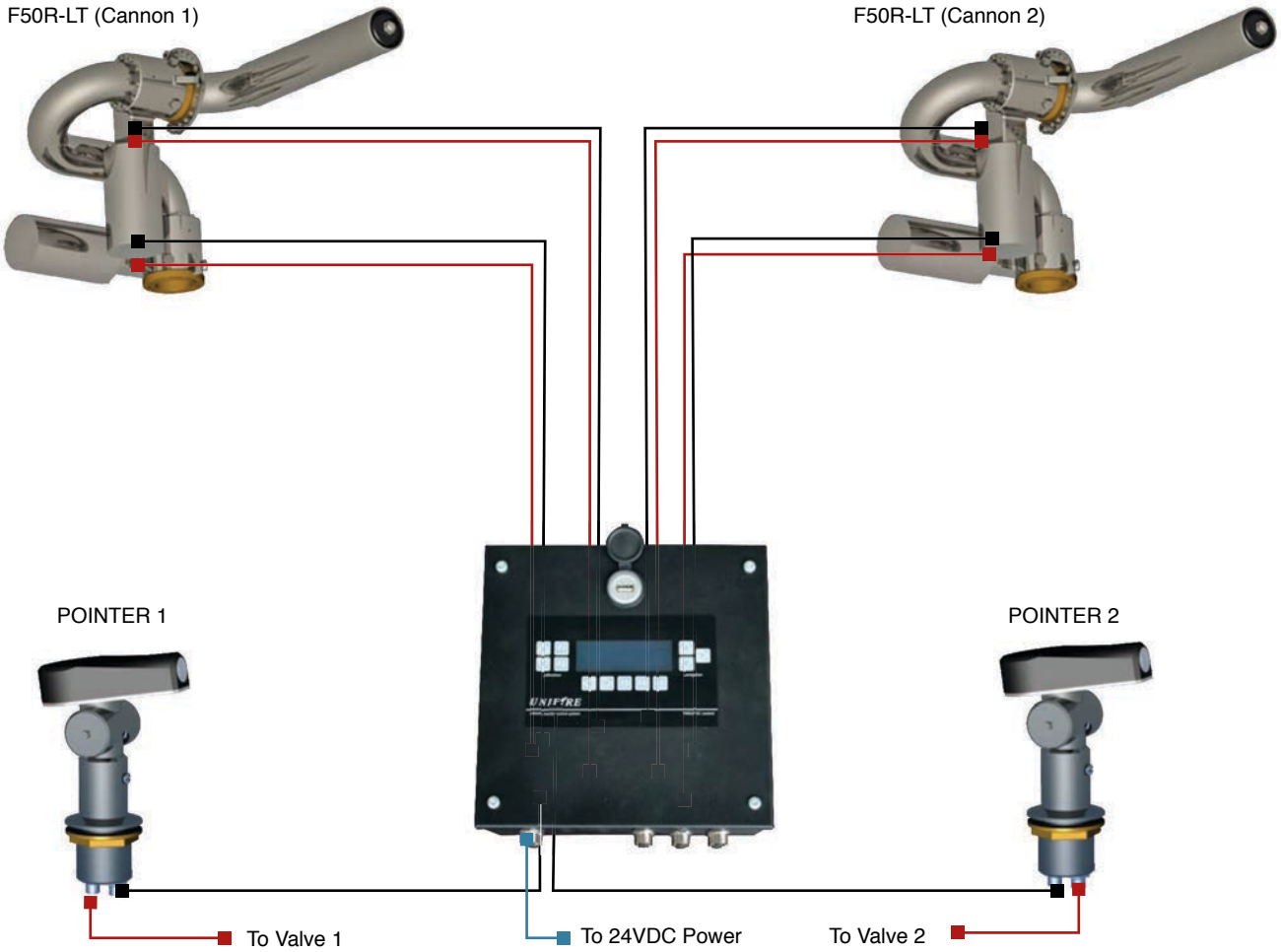
ROBOTIC NOZZLE PACKAGE 10

Robotic Nozzle:	2 x F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA4	TARGA4 Robotic Nozzle PLC. 4 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.



Part Numbers
F50R-LT
TARGA4
PTR101
M1255
M1253
FOR00415 (power cbl)

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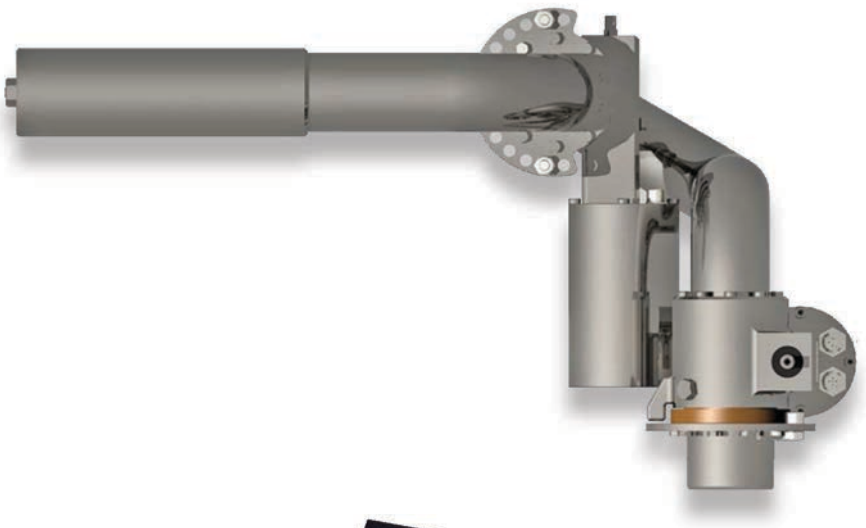
ROBOTIC NOZZLE PACKAGE 11

Robotic Nozzle:	F50R-LT	F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Robotic Tip:	JETRANGE 50 (integrated)	Integrated JETRANGE 50 nozzle tip provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA2	TARGA2 Robotic Nozzle PLC. 2 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	FOR00207	PI CANbus joystick with position feedback, record/play, progressive control. nozzle dial
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable. Standard cable length is 5 meters each.



Part Number(s):
F50R-LT
TARGA2
FOR00207
3 x M1255
2x M1253
1 x FOR00415 power cable

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ROBOTIC NOZZLE PACKAGE 12

Robotic Nozzle:	FORCE80BLDC	FORCE80 316L stainless steel robotic nozzle with BLDC motors. Max. 5000 lpm @ 10 bars (1320 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Nozzle Tip:	JR80	JETRANGE 80 nozzle tip, made of stainless steel 316, provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA2	TARGA2 Robotic Nozzle PLC. 2 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable and 1 x M12 3-pin cable. Standard cable length is 5 meters each.

Packages pres

Part Number(s):
FORCE80BLDC
JR80
TARGA2
PTR101
3 x M1255
3 x M1253
1 x FOR00415 power cable

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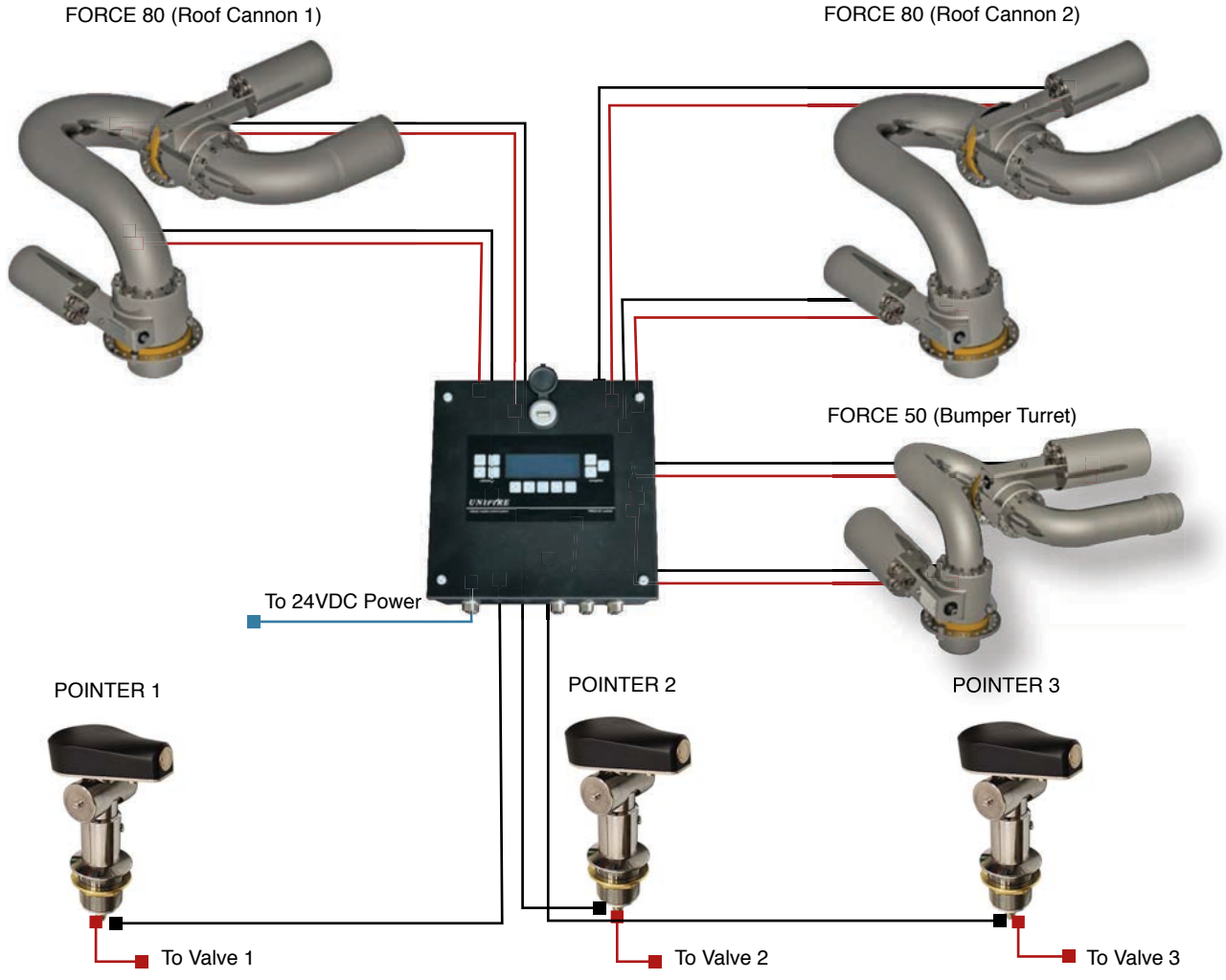
ROBOTIC NOZZLE PACKAGE 13

Robotic Nozzles:	2 x FORCE 80 (without nozzle tip) 1 x FORCE 50 (without nozzle tip)	FORCE 80 316L stainless steel robotic nozzle with BLDC motors (Max 500 lpm @ 10 bars); & 1 FORCE 50. (Max. 2000 lpm @ 10 bars). Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA6	TARGA6 Robotic Nozzle PLC. 6 BLDC drivers. Programmable with analogue and digital inputs & outputs. Integrated setup panel.
Controller:	3 x PTR110	POINTER Synchron controller with trigger button for triggering valve open/closed, and with scroll wheel for adjusting pulsing signal to a pulsing valve
Cables	Motor & Power cable kit	Complete system cable kit. Standard cable length is 5 meters each, can be extended in 5 meter increments by ordering additional cables (2 or more cables can be combined.)



Part Numbers
FORCE80BLDC
FORCE50BLDC
TARGA6
PTR110
M1255
M1253
FOR00415 (power cbl)

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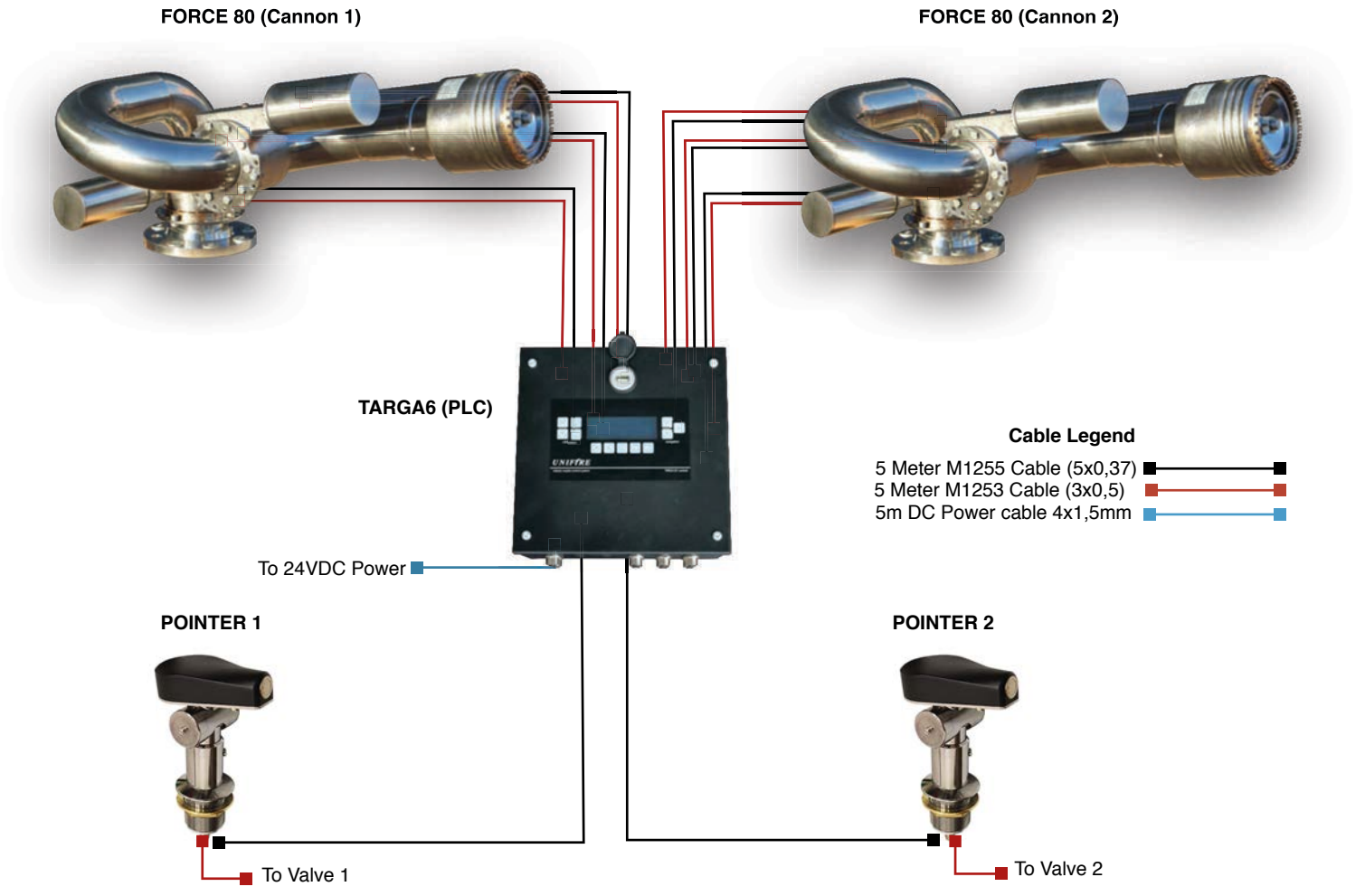
ROBOTIC NOZZLE PACKAGE 14

Robotic Nozzles:	2 x FORCE80BLDC	FORCE80 316L stainless steel robotic nozzle with BLDC motors. Max. 5000 lpm @ 10 bars (1320 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Robotic Tips:	2 x INT80124B	INTEG80 BLDC jet/spray robotic nozzle tip with BLDC motors & integrated gear mechanics
PLC:	1 x TARGA6	TARGA6 Robotic Nozzle PLC. 6 BLDC drivers. Programmable with analogue and digital inputs & outputs. Integrated setup panel.
Controller:	2 x PTR110	POINTER Synchron controller with trigger button for triggering valve open/closed, and with scroll wheel for adjusting jet/spray angle.
Cables	Motor & Power cable kit	Complete system cable kit. Standard cable length is 5 meters each, can be extended in 5 meter increments by ordering additional cables (2 or more cables can be combined.)

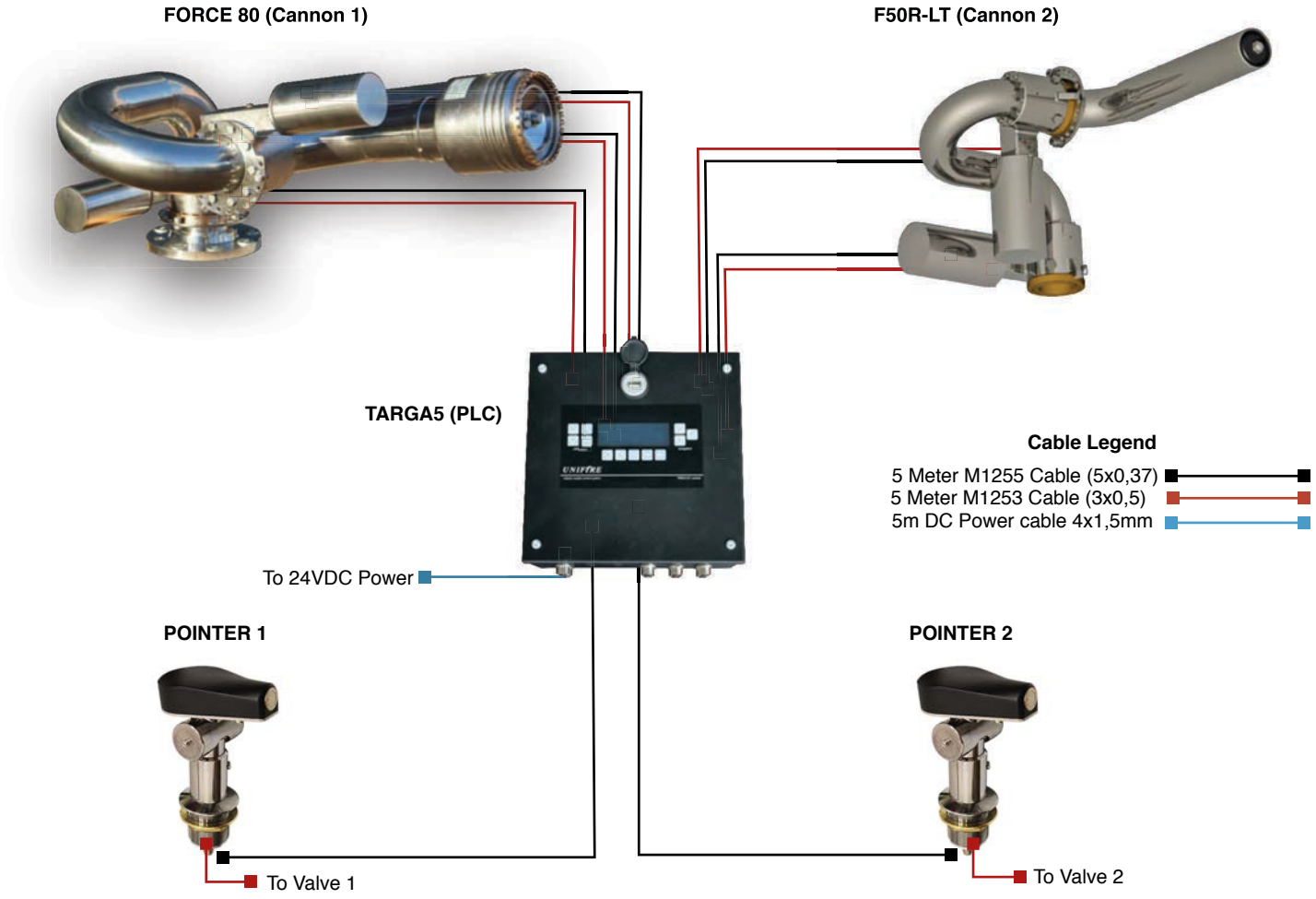


Part Numbers
FORCE80BLDC
INT80124B
TARGA6
PTR110
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 15

Robotic Nozzles:	1 x FORCE80BLDC & 1 x F50R-LT	FORCE80 316L stainless steel robotic nozzle with BLDC motors; and F50R-LT 316L stainless steel robotic nozzle with BLDC motors & Integrated JETRANGE 50 nozzle tip.
Robotic Tips:	1 x INT80124B & 1 x JETRANGE 50	INTEG80 BLDC jet/spray robotic nozzle tip with BLDC motors on the Force 80; and JETRANGE 50 nozzle for F50R-LT, integrated
PLC:	1 x TARGA5	TARGA5 Robotic Nozzle PLC. 5 BLDC drivers. Programmable with analogue and digital inputs & outputs. Integrated setup panel.
Controller:	2 x PTR110	POINTER Synchron controller with trigger button for triggering valve open/closed, and with scroll wheel for adjusting jet/spray angle.
Cables	Motor & Power cable kit	Complete system cable kit. Standard cable length is 5 meters each, can be extended in 5 meter increments by ordering additional cables (2 or more cables can be combined.)



Part Numbers
FORCE80BLDC
INT80124B
F50R-LT
TARGA5
PTR110
M1255
M1253
FOR00415 (power cbl)

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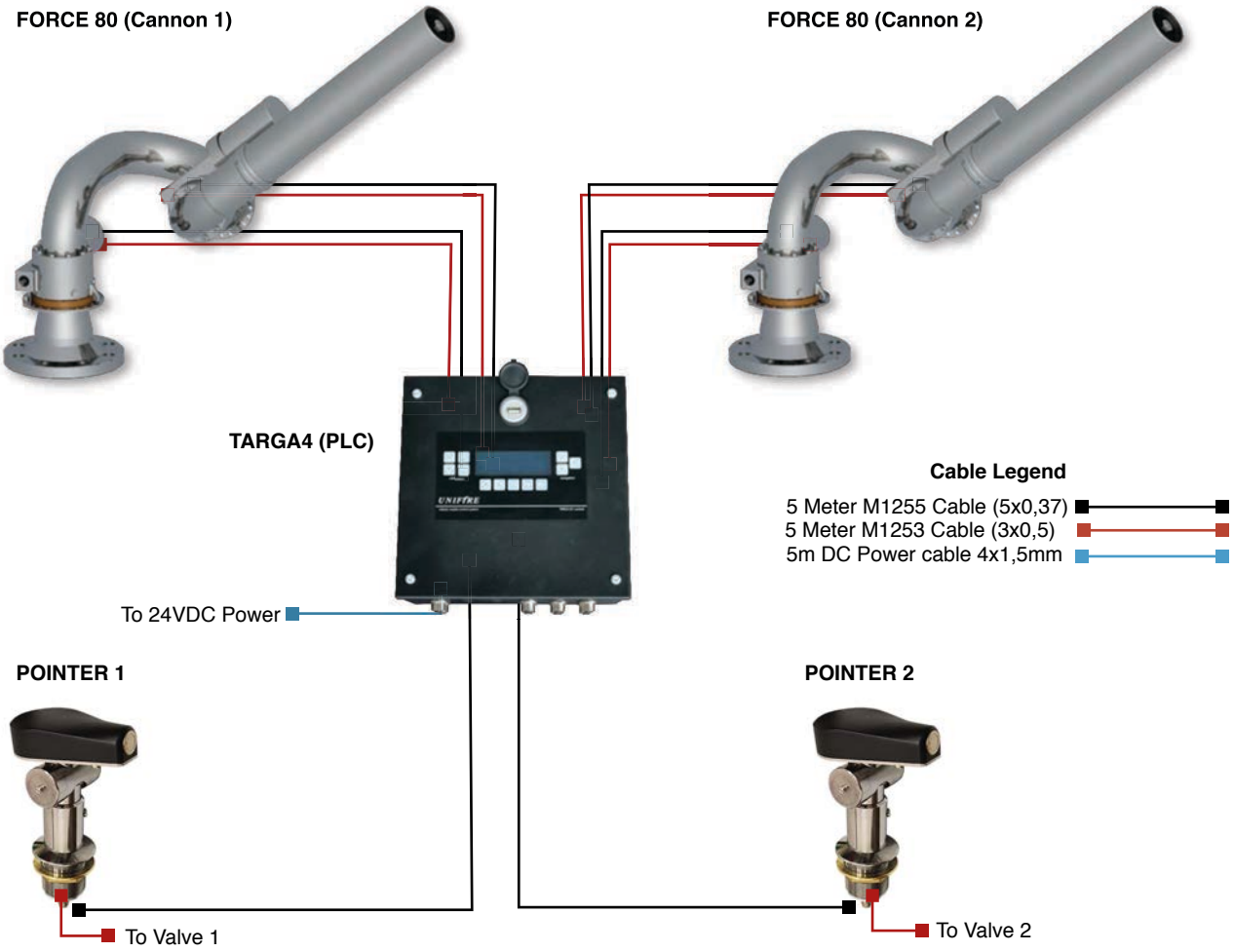
ROBOTIC NOZZLE PACKAGE 16

Robotic Nozzles:	2 x FORCE80BLDC	FORCE80 316L stainless steel robotic nozzle with BLDC motors. Max. 5000 lpm @ 10 bars (1320 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Nozzle Tip:	2 x JETRANGE 80	JETRANGE 80 nozzle tip, made of stainless steel 316, provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	1 x TARGA4	TARGA4 Robotic Nozzle PLC. 4 BLDC drivers. Programmable with analogue and digital inputs & outputs. Integrated setup panel.
Controller:	2 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	Motor & Power cable kit	Complete system cable kit. Standard cable length is 5 meters each, can be extended in 5 meter increments by ordering additional cables (2 or more cables can be combined.)



Part Numbers
FORCE80BLDC
JR80
TARGA4
PTR101
M1255
M1253
FOR00415 (power cbl)

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ROBOTIC NOZZLE PACKAGE 17

Robotic Nozzle:	FORCE80BLDC	FORCE80 316L stainless steel robotic nozzle with BLDC motors. Max. 5000 lpm @ 10 bars (1320 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Nozzle Tip:	JR80	JETRANGE 80 nozzle tip, made of stainless steel 316, provides a focused, high-impact jet. Interchangeable flow discs (baffles) to accommodate your flow requirements.
PLC:	TARGA2	TARGA2 Robotic Nozzle PLC. 2 BLDC drivers. Programmable with several analogue and digital inputs and outputs. Integrated setup panel.
Controller:	FOR00217	VIPER large grip Joystick. Rubber. Canbus connection. Capacitive ”dead-mans-grip”. Trigger. Several generic buttons.
Cables	M12 cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable and 1 x M12 3-pin cable. Standard cable length is 5 meters each.

Part Number(s):
FORCE80BLDC
JR80
TARGA2
FOR00217
3 x M1255
3 x M1253
1 x FOR00415 power cable

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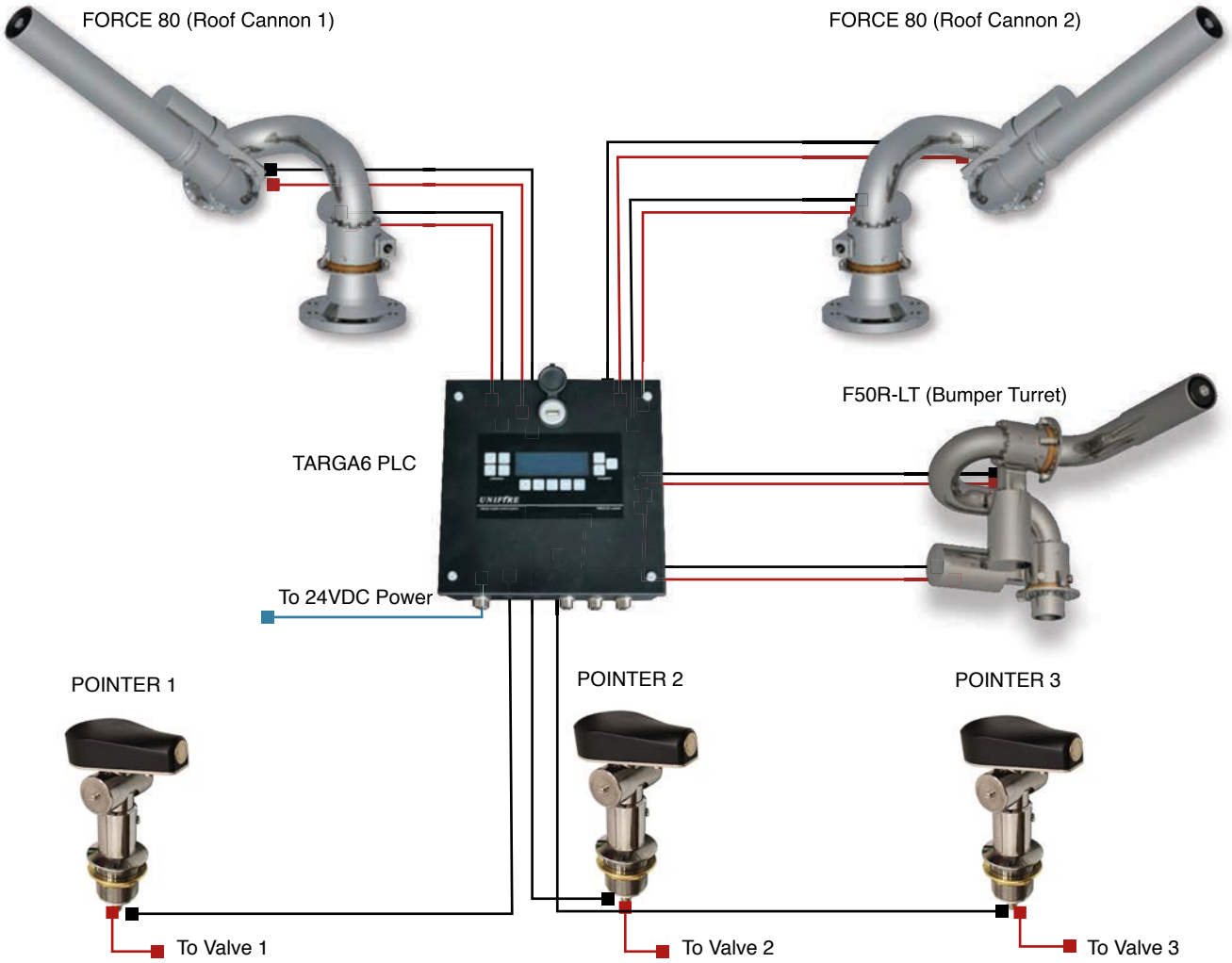
ROBOTIC NOZZLE PACKAGE 18

Robotic Nozzles:	2 x FORCE 80 (with JETRANGE tip) 1 x F50R-LT (with integrated JETRANGE tip)	2x FORCE 80 316L with BLDC motors & JETRANGE tip; 1 x F50R-LT 316L with BLDC motors & JETRANGE tip ..
PLC:	1 x TARGA6	TARGA6 Robotic Nozzle PLC. 6 BLDC drivers. Programmable with analogue and digital inputs & outputs. Integrated setup panel.
Controller:	3 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed. Standard range of control: 270° horizontal, 90° vertical (-20°/+70°), custom range of motion possible.
Cables	Motor & Power cable kit	Complete system cable kit. Standard cable length is 5 meters each, can be extended in 5 meter increments by ordering additional cables (2 or more cables can be combined.)



Part Numbers
FORCE80BLDC
JR80 (JETRANGE)
F50R-LT
TARGA6
PTR101
M1255
M1253
FOR00415 (power cbl)

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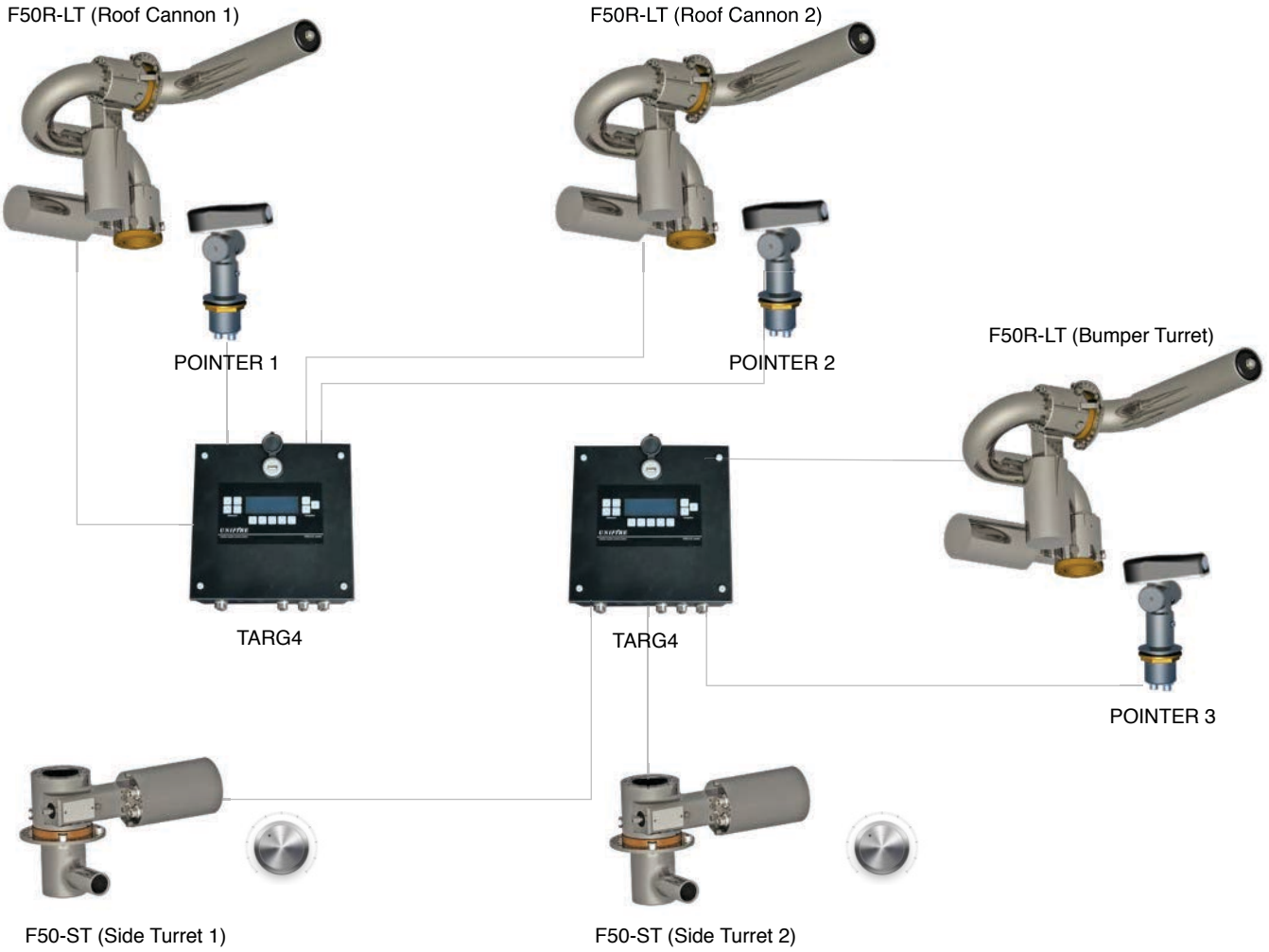
ROBOTIC NOZZLE PACKAGE 19

Robotic Nozzles:	3 x F50R-LT	3 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turrets:	2 x F50-ST	2 x F50-ST side turret with BLDC motor riot vehicle protection. Inside Ø: 50 mm; Outlet Ø: 26mm - Flow up to 1200 lpm/10 bar
PLC:	2 x TARGA4	2 x TARGA4 Robotic Nozzle PLC. 4 BLDC drivers (each). Programmable with analogue and digital inputs and outputs. Integrated setup panel.
Controller:	3 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

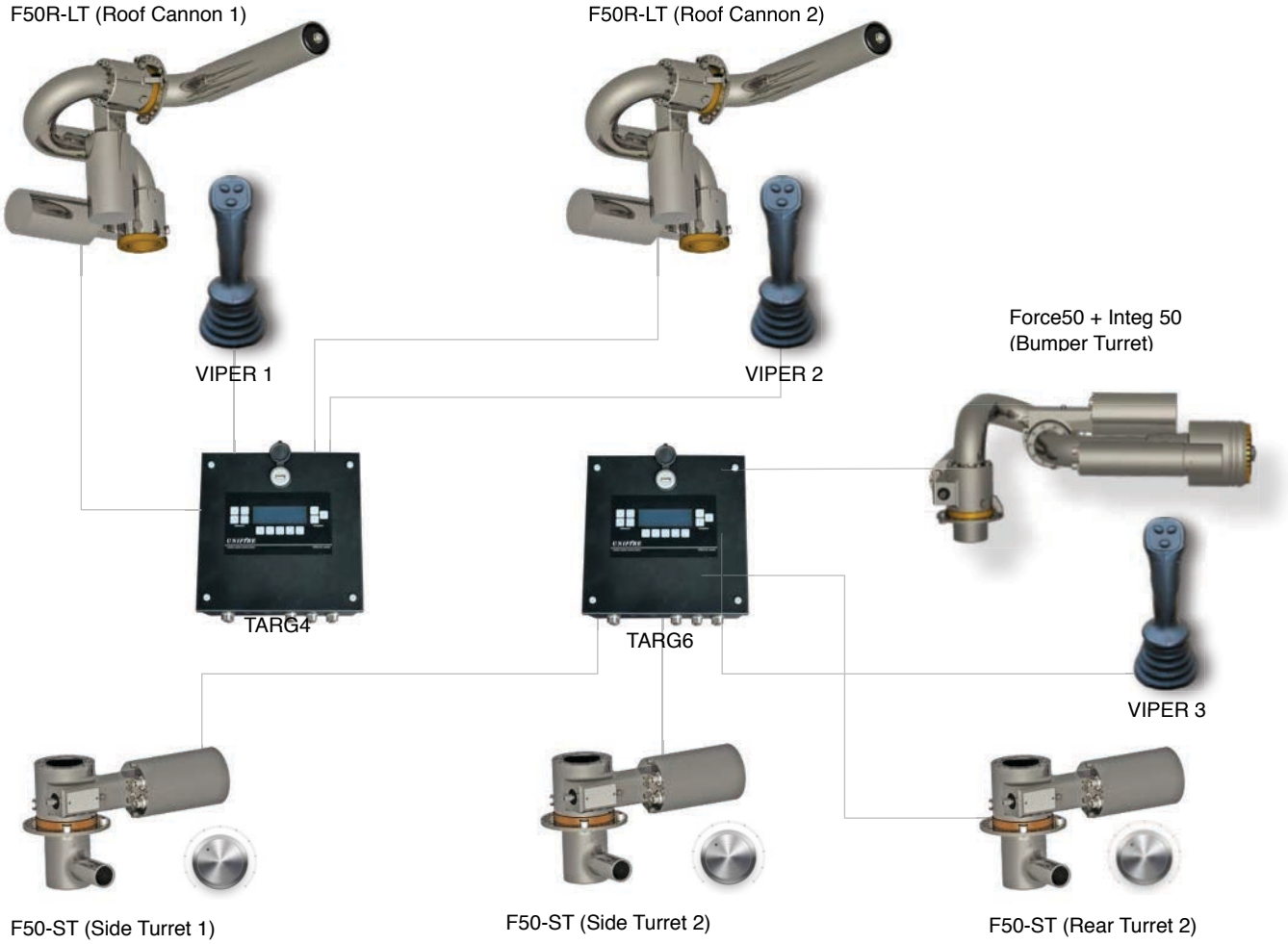


Part Numbers
F50R-LT
F50-ST
TARGA4
PTR101
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 20

Robotic Nozzles:	2 x F50R-LT 1 x FORCE50BLDC with Integ 50 Jet/Spray Tip	2 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; 1 x Force50 BLDC with Integ 50 Jet/Spray tip. Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turrets:	2 x F50-ST	2 x F50-ST side turret with BLDC motor riot vehicle protection. Inside Ø: 50 mm; Outlet Ø: 26mm - Flow up to 1200 lpm/10 bar
PLC's:	1 x TARGA4 1 x TARGA6	2 x TARGA4 Robotic Nozzle PLC. 4 BLDC drivers (each). Programmable with analogue and digital inputs and outputs. Integrated setup panel.
Controller:	3 x FOR00217	VIPER large grip Joystick. Rubber. Canbus connection. Capacitive "dead-mans-grip". Trigger. Several assignable buttons.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

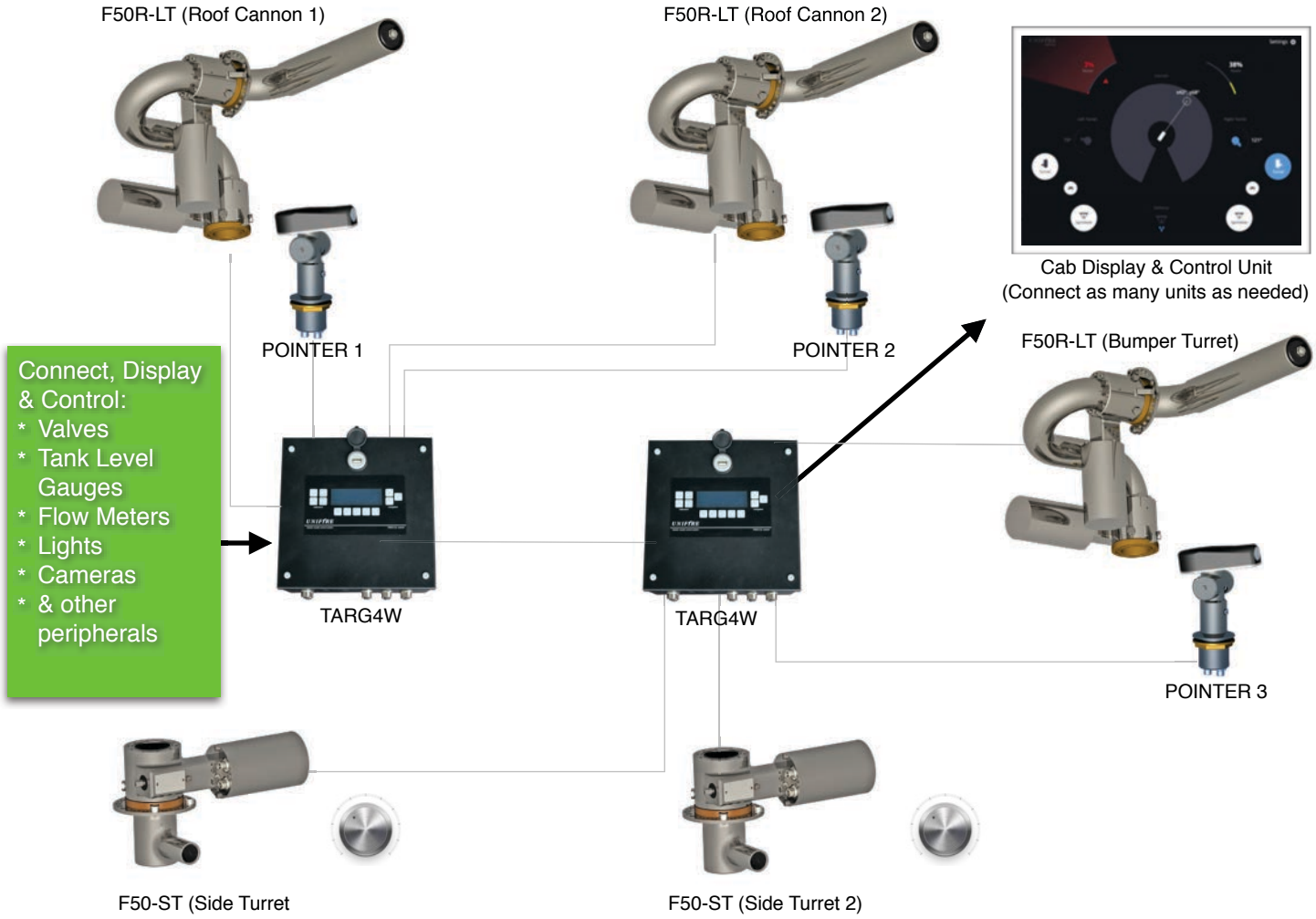


Part Numbers
F50R-LT
FORCE50BLDC
INT50124B
F50-ST
TARGA4
TARGA6
FOR00217
M1255
M1253
FOR00415 (power cbl)
Package price (SEK)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 21

Robotic Nozzles:	3 x F50R-LT	3 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
Side Turrets:	2 x F50-ST	2 x F50-ST side turret with BLDC motor riot vehicle protection. Inside Ø: 50 mm; Outlet Ø: 26mm - Flow up to 1200 lpm/10 bar
PLC's:	2 x TARGA4W	2 x TARGA4W Robotic Nozzle PLC with embedded PC's & UniWeb. 4 BLDC drivers (each). Programmable with analogue and digital inputs and outputs. Integrated setup panel. Digital & Analogue inputs & outputs for connecting valves, tang level gauges, lights, etc. (to be specified on order)
Controllers:	3 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/ closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). Joystick requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

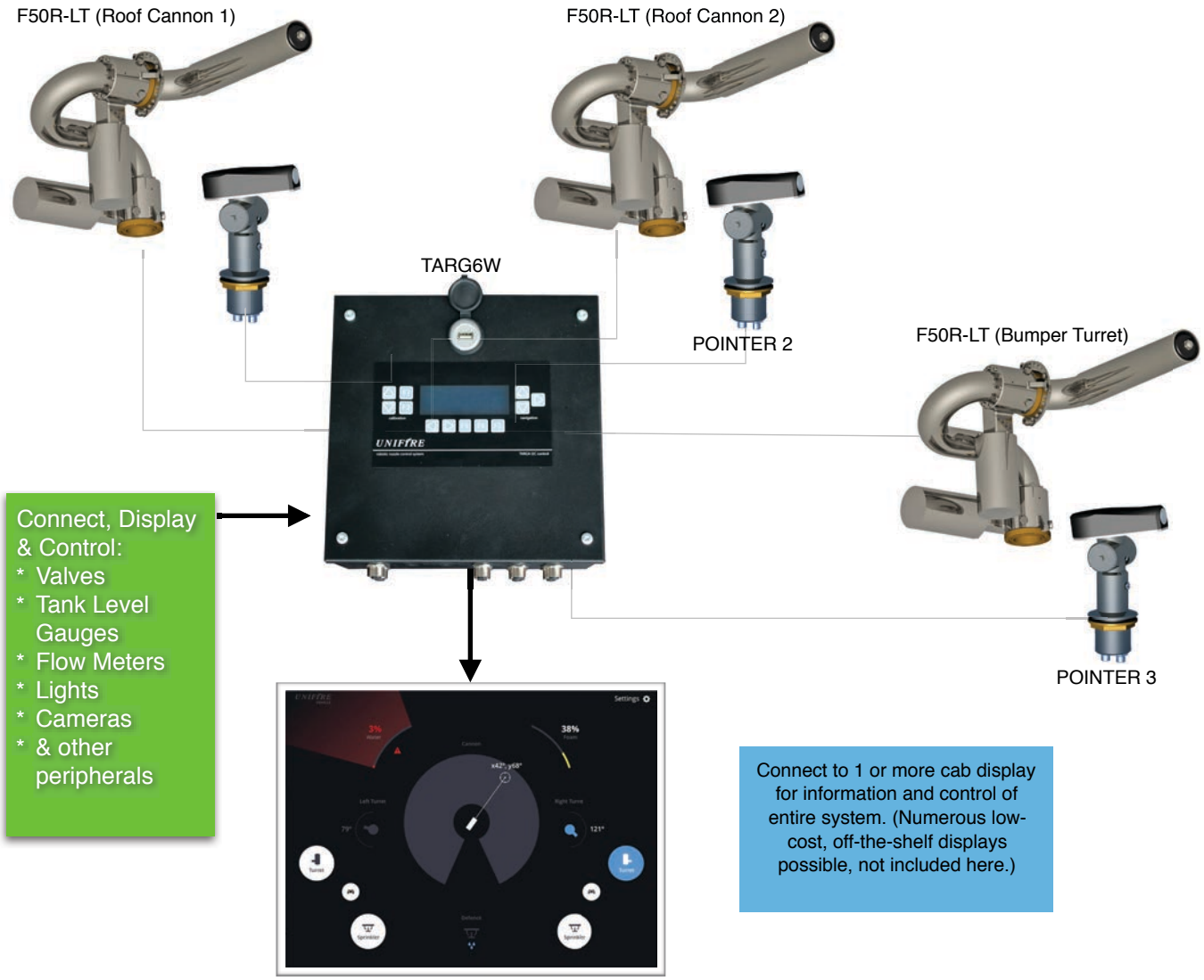


Part Numbers
F50R-LT
F50-ST
TARGA4W
PTR101
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 22

Robotic Nozzles:	3 x F50R-LT	3 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA6W	1 x TARGA6W Robotic Nozzle PLC with embedded PC's & UniWeb. 6 BLDC drivers. Programmable with analogue and digital inputs and outputs. Integrated setup panel. Digital & Analogue inputs & outputs for connecting valves, tang level gauges, lights, etc. (to be specified on order)
Controllers:	3 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/ closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

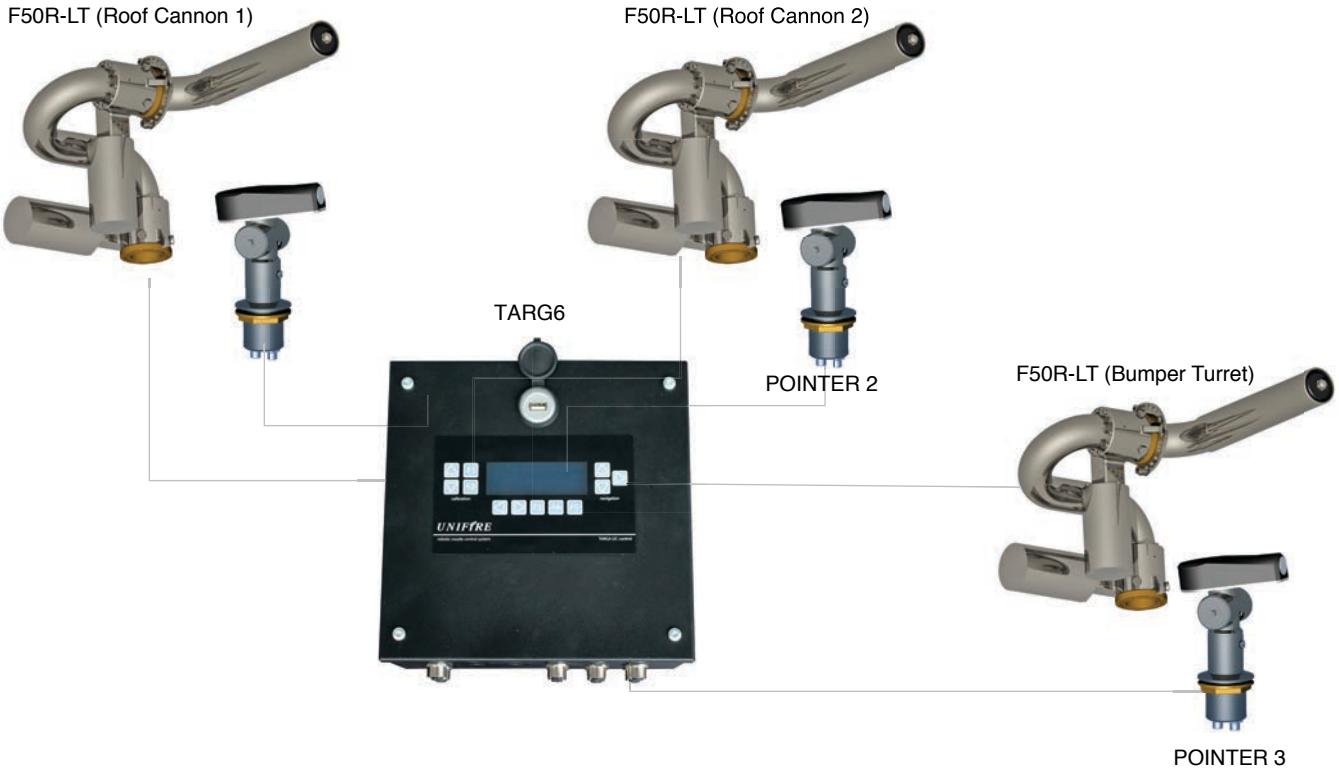


Part Numbers
F50R-LT
TARGA6W
PTR101
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 23

Robotic Nozzles:	3 x F50R-LT	3 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA6	1 x TARGA6 Robotic Nozzle PLC with 6 BLDC drivers. Programmable with analogue and digital inputs and outputs. Integrated setup panel. Digital & Analogue inputs & outputs for connecting valves, tang level gauges, lights, etc. (to be specified on order)
Controllers:	3 x PTR101	POINTER Synchron controller with trigger button for triggering valve open/ closed.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

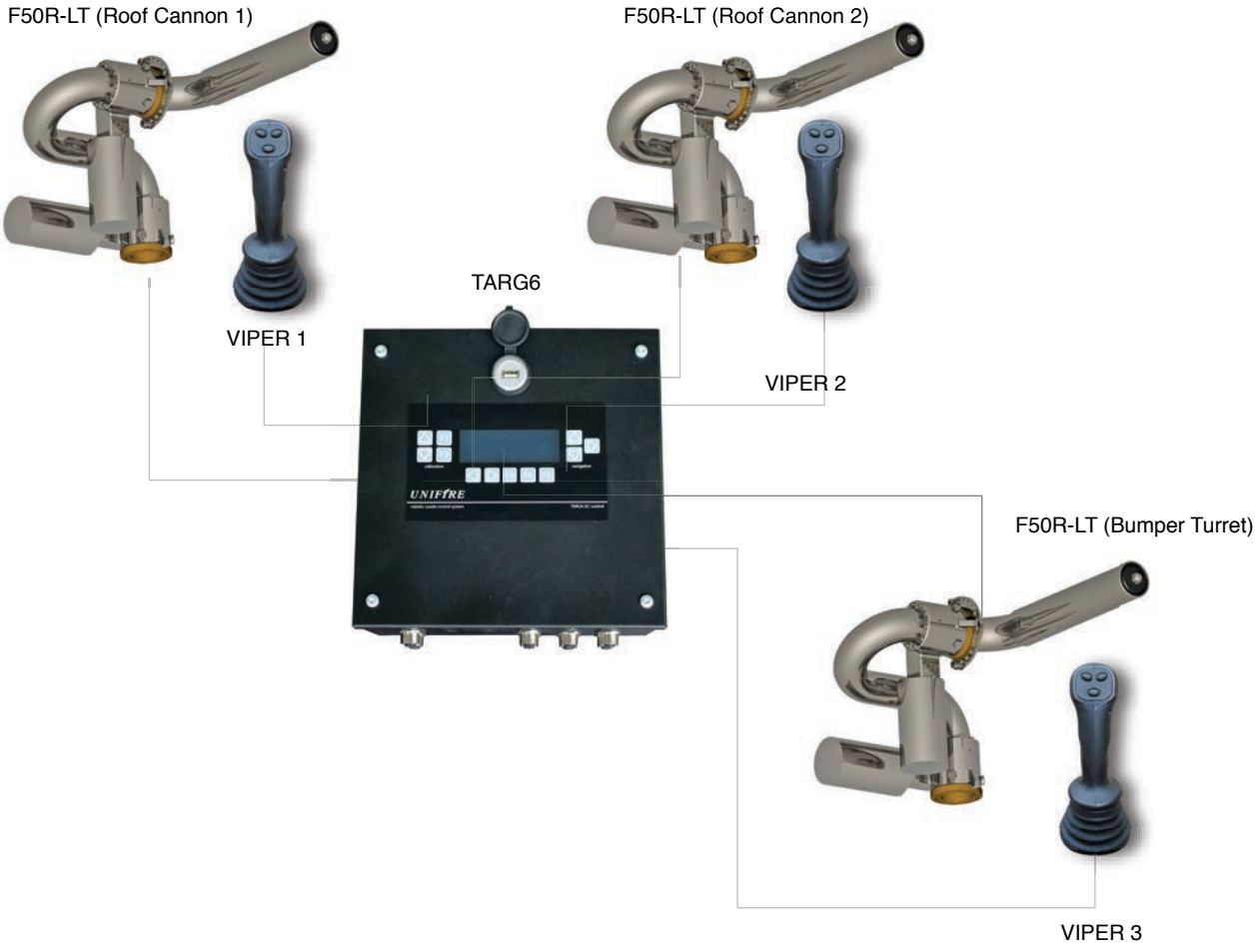


Part Numbers
F50R-LT
TARGA6
PTR101
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

ROBOTIC NOZZLE PACKAGE 24

Robotic Nozzles:	3 x F50R-LT	3 x F50R-LT 316L stainless steel robotic nozzles with BLDC motors & Integrated JETRANGE 50 nozzle tips; Max. 2000 lpm @ 10 bars (530 gpm @ 145 psi) Range of Motion: 360° horizontal, 180° vertical (±90°)
PLC:	1 x TARGA6	1 x TARGA6 Robotic Nozzle PLC with 6 BLDC drivers. Programmable with analogue and digital inputs and outputs. Integrated setup panel. Digital & Analogue inputs & outputs for connecting valves, tang level gauges, lights, etc. (to be specified on order)
Controllers:	3 x FOR00217	VIPER heavy duty joystick with capacitive grip, progressive speed control, trigger button to control a valve and 3 definable buttons.
Cables	Motor & Power cable kit	Each BLDC motor requires two M12 cables (1 x 5 pin + 1 x 3-pin). POINTER requires 1 x M12 5-pin cable for charging & tethered communication. Standard cable length is 5 meters each.

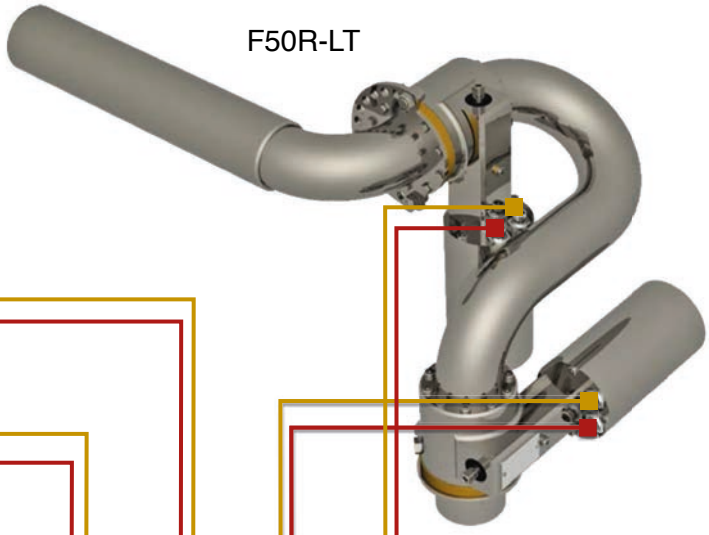


Part Numbers
F50R-LT
TARGA6
FOR00217
M1255
M1253
FOR00415 (power cbl)

Sales@Unifire.com

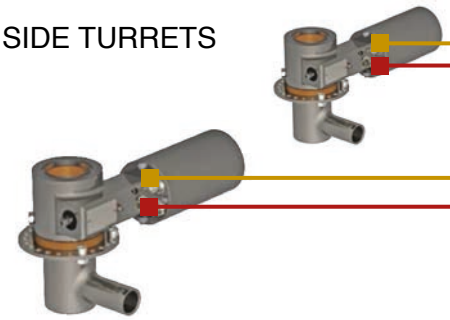
System overview

1 x F50R-LT, 2 side turrets, 1 x POINTER



F50R-LT

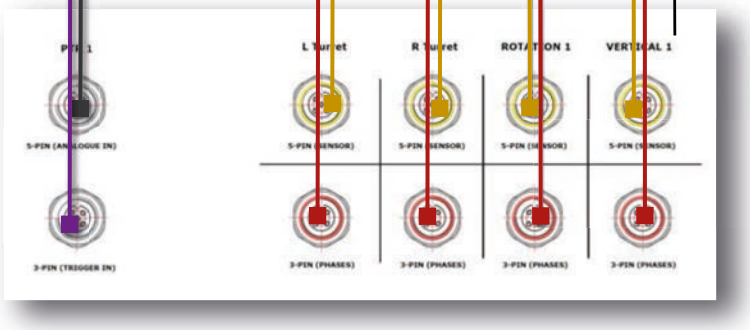
SIDE TURRETS



POINTER

ATTENTION!!
The 3-pin cable go to 3-pin connector and 5-pin cable to 5-pin connector!!

Touch screen/
Tablet



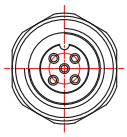
24VDC (15 A fuse)
24VDC (2A fuse) - to battery
0V

UNIFIRE

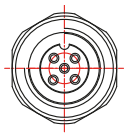
TARGA Robotic Nozzle PLC

connector and pin specification riot

PTR 1



5-PIN (ANALOGUE IN)



3-PIN (TRIGGER IN)

L Turret

5-PIN (SENSOR)

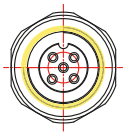
3-PIN (PHASES)

R Turret

5-PIN (SENSOR)

3-PIN (PHASES)

ROTATION 1



5-PIN (SENSOR)

3-PIN (PHASES)

VERTICAL 1

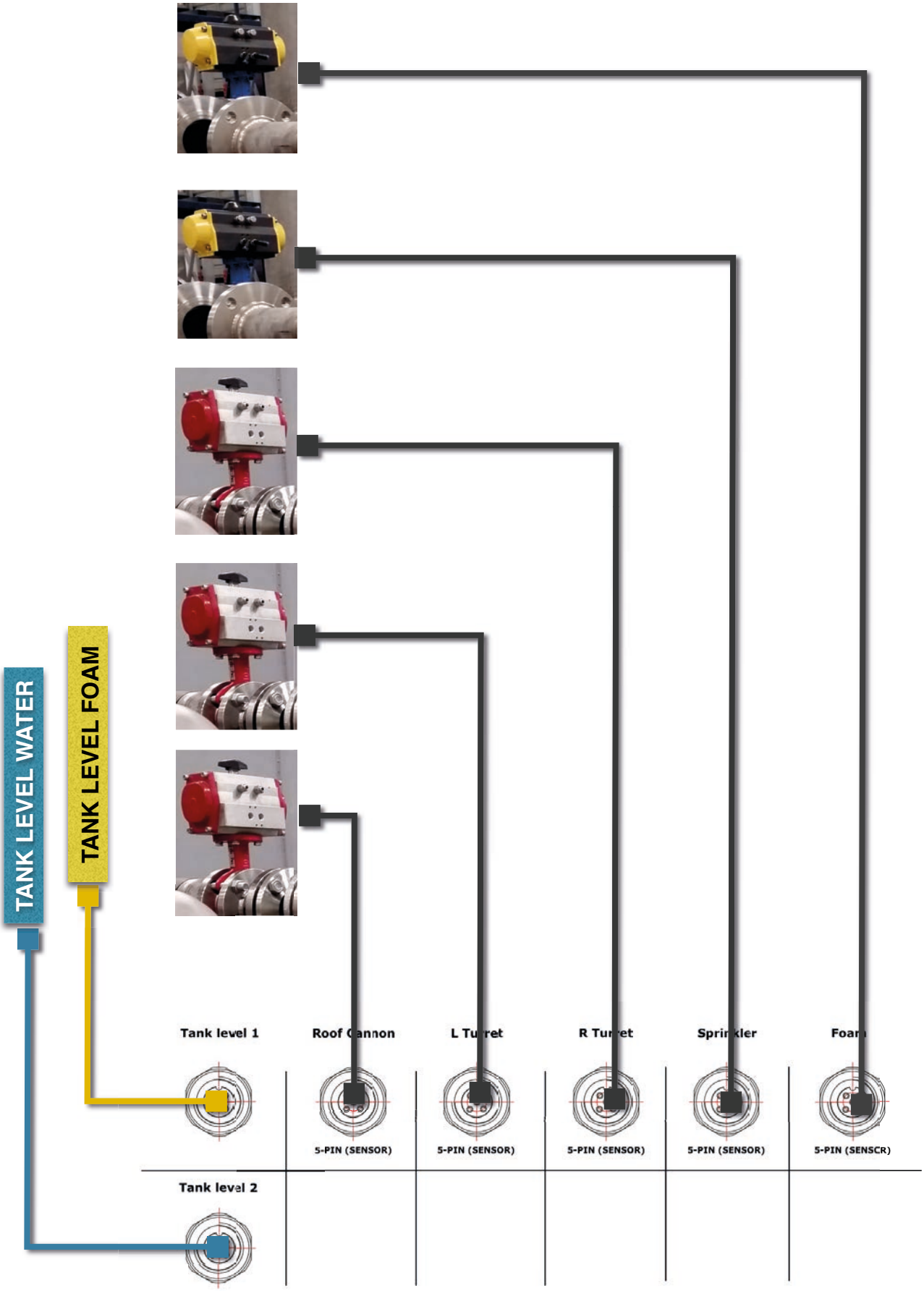
5-PIN (SENSOR)

3-PIN (PHASES)

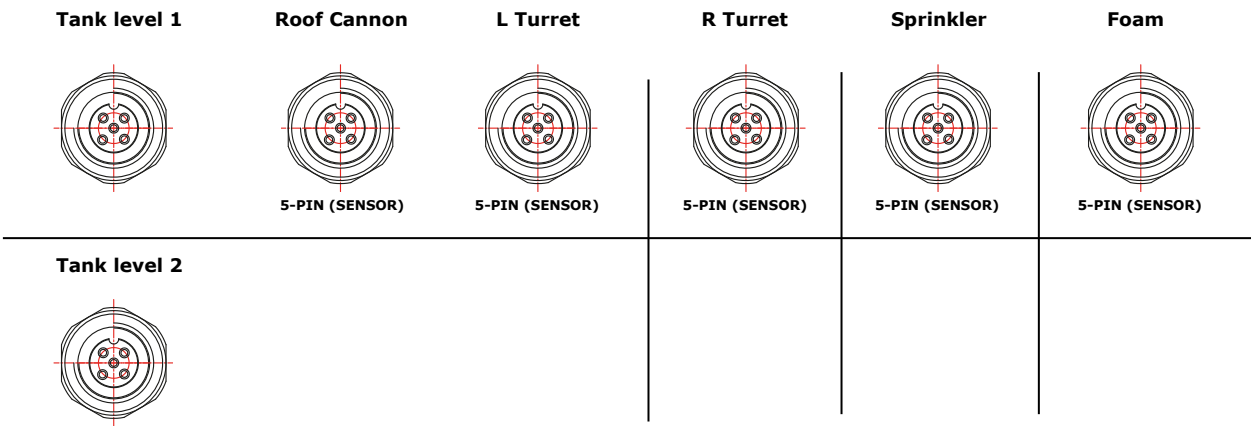
POINTER 1		TRIGGER IN		BLDC sensor		BLDC phases	
P1	ROT	P1	close to P3	P1	GND	P1	PHASE 1
P2	5 V	-	-	P2	5 VDC	P2	not connected
P3	GND	P3	close to P1	P3	HALL 3	P3	PHASE 2
P4	VERT	P4	(spare)	P4	HALL 2	P4	PHASE 3
P5	(scroll)	-	-	P5	HALL 1	P5	not connected

TRIGGER IN					
P1	DIG. IN.	CONTROLLS VALVE OUT 1 & 2			
P2	-	-			
P3	GND	-			
P4	-	-			
P5	-	-			

24 VDC to actuate the solenoid. End position feedback. In the same M12 cable.



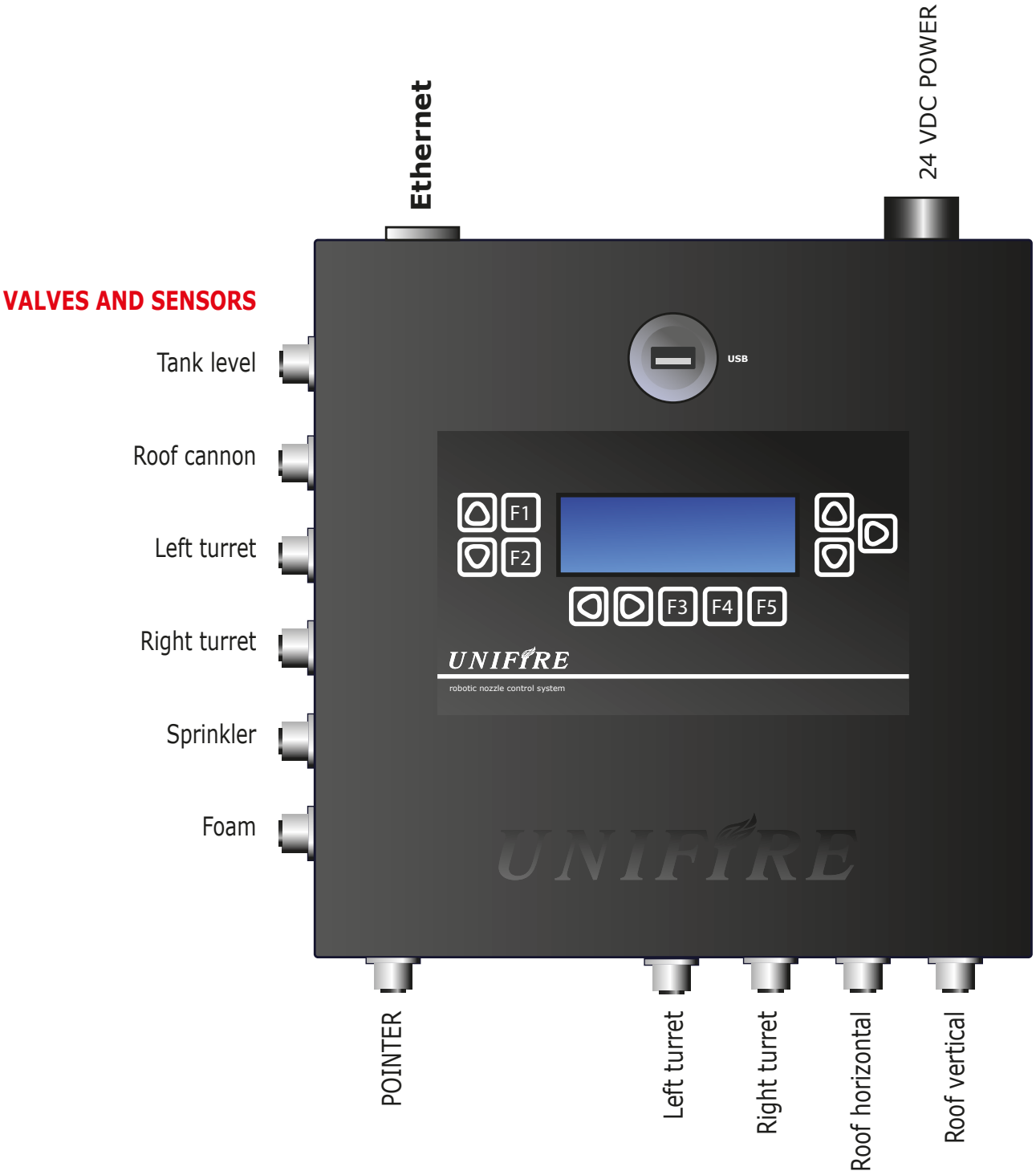
M12 connectors for valves 1-5, and Tank level gauges



Pneumatic VALVE over solenoid control		
P1	VALVE OUT 24 VDC	24V = open, 0V = closed. P1 to P2 over solenoid.
P2	VALVE GND	
P3	GND	
P4	end pos open	close P4 to P3 (GND) display valve open
P5	end pos closed	close P5 to P3 (GND) will display valve closed

Tank level gauge 0-5 V					
P1	out	5V sensor power			
P2	in	sensor signal 0-5 V			
P3	GND	ground			
P4	-	-			
P5	-	-			

Riot Control Example TARGA Connections Overview
(Custom configurations made to your specifications.)



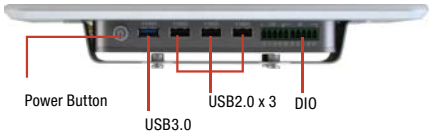
ACP-1104

10.1” WXGA Ultra-slim Fanless Multi Touch Panel PC w/ Intel® Atom™ J1900/ N2807 Processor, 2GB RAM

Features

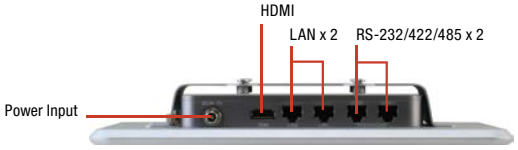
- 10.1” WXGA (1280 x 800) Color TFT LCD Display
- Intel® Atom™ J1900/ N2807 Processor
- Aluminum Design
- Projected Capacitive Multi Touch (2 Fingers)
- Fanless System
- VESA 75/ Panel Mount Support

Top I/O Side



Rear Side

Button I/O Side



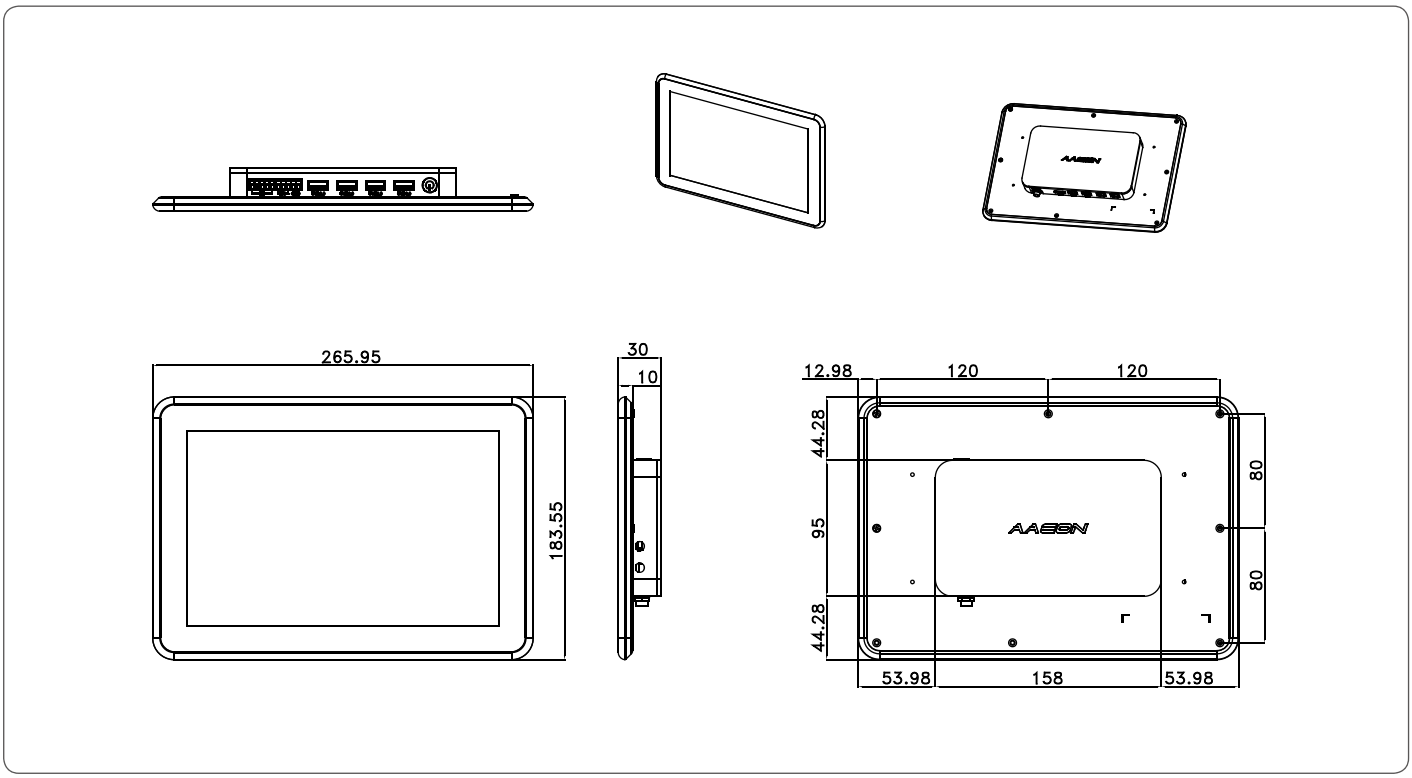
Specifications

System	
Processor	Intel® Atom™ J1900 processor, 2 GHz Intel® Atom™ N2807 processor, 1.58 GHz
System Memory	DDR3L 1333MHz SODIMM (204 pin) x 1, built-in 2GB, Max. 8GB (J1900) DDR3L 1333MHz SODIMM (204 pin) x 1, built-in 2GB, Max. 4GB (N2807)
Ethernet	10/100/1000Base-TX, RJ-45 x 2
I/O Port	RS-232/422/485 x 2 (RJ-45 connector) USB 2.0 Type A x 3 USB 3.0 Type A x 1 HDMI x 1 DI/O (4 DI, 2 DO) BIOS selection Power button x 1 Lockable power connector x 1
Storage Disk Drive	Half size mSATA x 1(Suggest AAEON installed it)
Expansion Slot	Full size mini card x 1
OS support	Window® 7, Window® 8.1, Linux Kernel 2.6.3 or above
Mechanical	
Front Panel	Aluminum Design
Mounting	VESA 75/ Panel Mount/Stand
Dimension	266 x 183.5 x 30mm
Carton Dimension	345 x 200 x 245mm
Gross Weight	2.5 kg
Environmental	
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) without Airflow 32°F ~ 122°F (0°C ~ 50°C) with Airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5%~90% @40°C; non-condensing
Vibration	1 g rms/ 5~ 500Hz/ operation – With HDD
Shock	15 G peak acceleration (11 msec. duration) – With HDD
EMC	CE/FCC Class A
Power Supply	
DC input	12V DC in lockable
LCD	
Display Type	10.1" TFT-LCD, LED
Max. Resolution	1280 x 800
Max. Colors	262k
Luminance	250 cd/m²
Viewing Angle	160°(H), 160°(V)
Back Light	LED
Touchscreen	
Type	Projected Capacitive Touch (two points)

ACP-1104

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF	CPU	LAN	USB	RS-232	RS-232/422/485	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch
ACP-1104HTT-A1-1010	10.1" TFT-LCD	1280 x 800	250 cd/m²	160(H), 160V	20,000	Intel® Atom™ J1900, 2.0 GHz	2	USB3.0 x 1, USB2.0 x 3	1	2	Half size mSATA HDD	2GB DDB3L	HDMI x 1	—	VESA 75	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projective Capacitive Touch
ACP-1104HTT-B1-1010	10.1" TFT-LCD	1280 x 800	250 cd/m²	160(H), 160V	20,000	Intel® Atom™ J1900, 2.0 GHz	2	USB3.0 x 1, USB2.0 x 3	1	2	Half size mSATA HDD	2GB DDB3L	HDMI x 1	WiFi Inside	VESA 75	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected Capacitive Touch (Two Points)
ACP-1104HTT-A3-1010	10.1" TFT-LCD	1280 x 800	250 cd/m2	160(H), 160V	20,000	Intel® Atom™ N2807, 1.58 GHz	2	USB3.0 x 1, USB2.0 x 3	1	2	Half size mSATA HDD	2GB DDB3L	HDMI x 1	—	VESA 75	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected Capacitive Touch (Two Points)
ACP-1104HTT-B3-1010	10.1" TFT-LCD	1280 x 800	250 cd/m²	160(H), 160V	20,000	Intel® Atom™ N2807, 1.58 GHz	2	USB3.0 x 1, USB2.0 x 3	1	2	Half size mSATA HDD	2GB DDB3L	HDMI x 1	WiFi Inside	VESA 75	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected Capacitive Touch (Two Points)

Packing List

- **Power Adapter**
- **1700090156**
  RJ-45 to COM Cable x 3
- **M041073000**
  VESA Mount Kit
- **9741107300**
  Panel Mount Kit
- **VESA Screws**
- **Product DVD**
- **ACP-1104**

Optional Accessories

- **1255300607**
  Power Adapter DC12V, 60W
- **1702031802**
  Power Cord (US Type)
- **1702031803**
  Power Cord (European Type)
- **M041073020**
  Stand Kit
- **9741107300**
  Panel mount kit

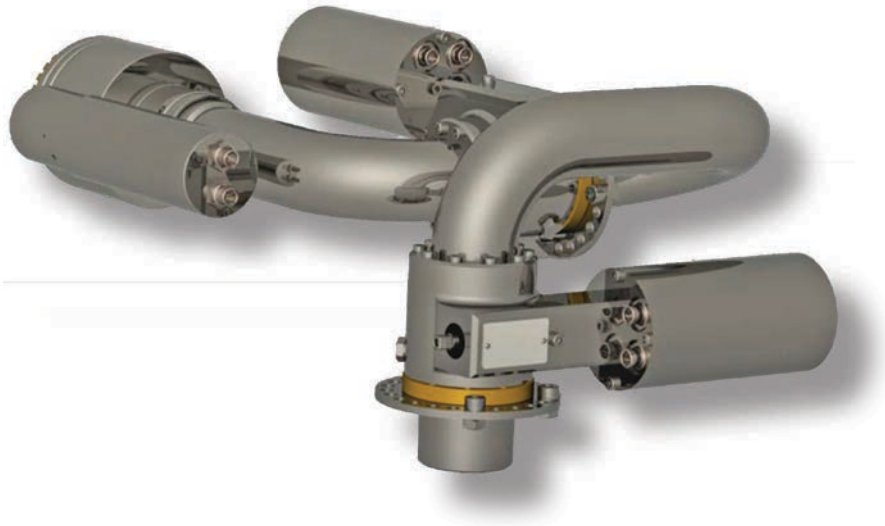
Half Size mSATA Storage Device:

- **968C008G0G**
  (TF)Half-sized, 8 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C016G1W**
  (TF)Half-sized, 16 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C016G1U**
  (TF)Half-sized, 16 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C032G1B**
  (TF)Half-sized, 32 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C032G0L**
  (TF)Half-sized, 32 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C064G0T**
  (TF)Half-sized, 64 GB, mSATA SSD, MLC, -40°C ~ +85°C

Note : AAEON strongly recommend you to buy AAEON factory-installed mSATA HDD if you need a mSATA HDD.

FORCE 50
ROBOTIC NOZZLES

Max Flow: 2000 lpm @ 10 bars (530 US gallons @ 145 psi; 120 m3/hr)
Max Reach: 65 meters



In this section we present the Unifire Force 50 robotic nozzle with BLDC motor technology.

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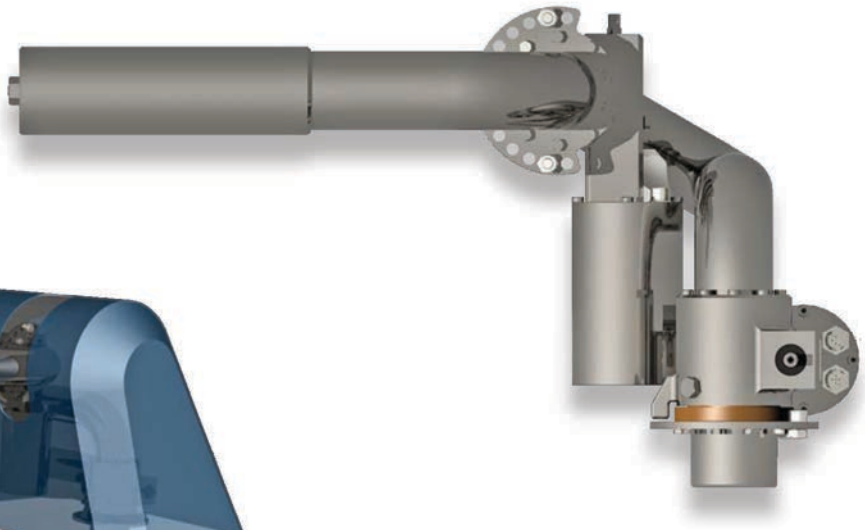
F50R-LT



Geometry suited for custom cover

- Heavy duty industrial robotic nozzle
- Stainless steel 316L pipe and worm-gears
- Industrial robotic brushless DC motors (BLDC)
- Laser-welded IP68 motor enclosures
- 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)
- Integrated JETRANGE nozzle tip provides a focused, high-impact jet
- Interchangeable flow discs (baffles) to accommodate your flow requirements
- 50 mm internal pipe diameter
- Virtually maintenance-free
- Light Weight: 15 Kg including nozzle
- Max flow: 2000 lpm @ 10 bars (530 US gallons @ 145 psi; 120 m3/hr)
- Max reach: 65 meters

Part Number(s):
F50R-LT
integrated nozzle included

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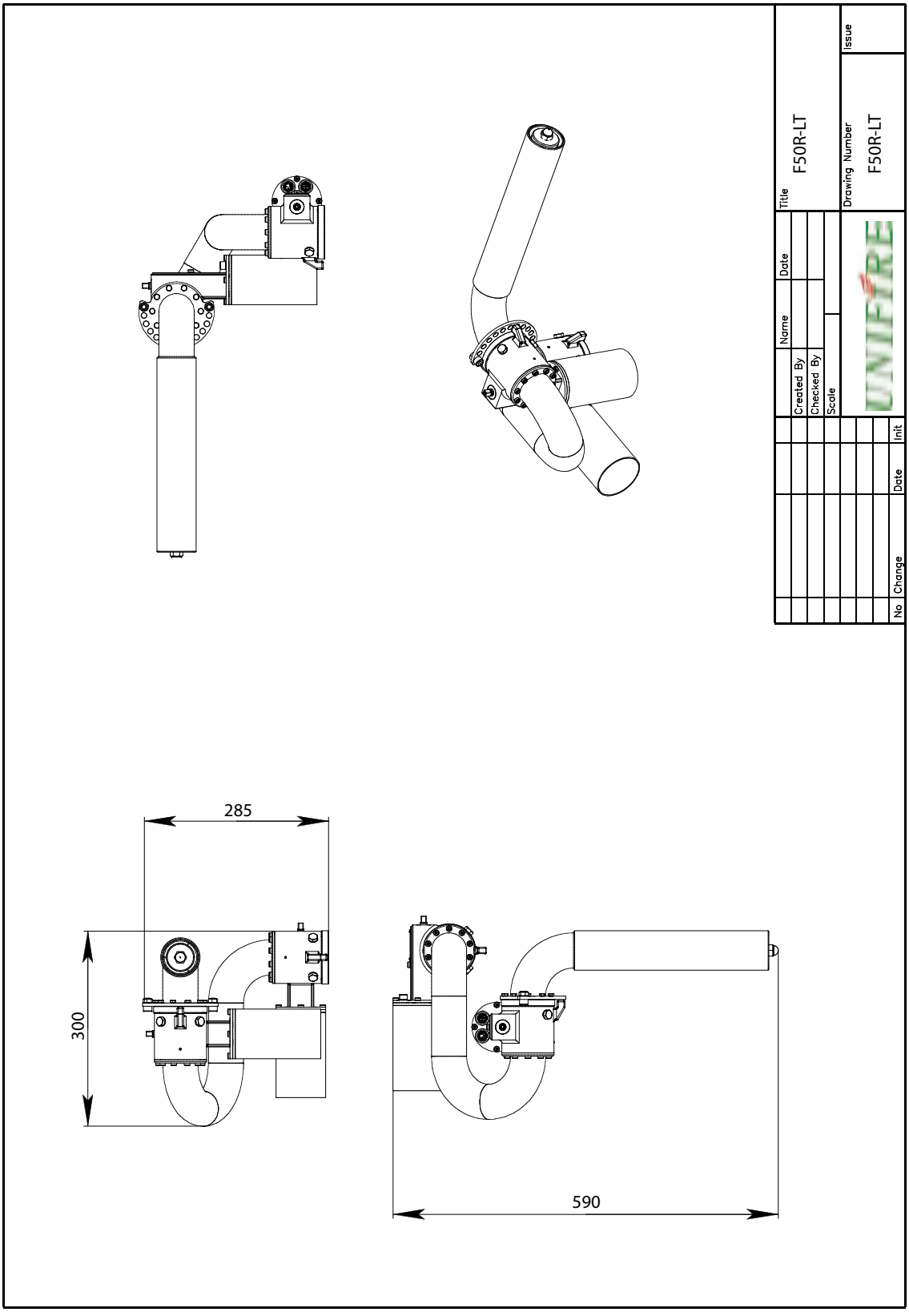
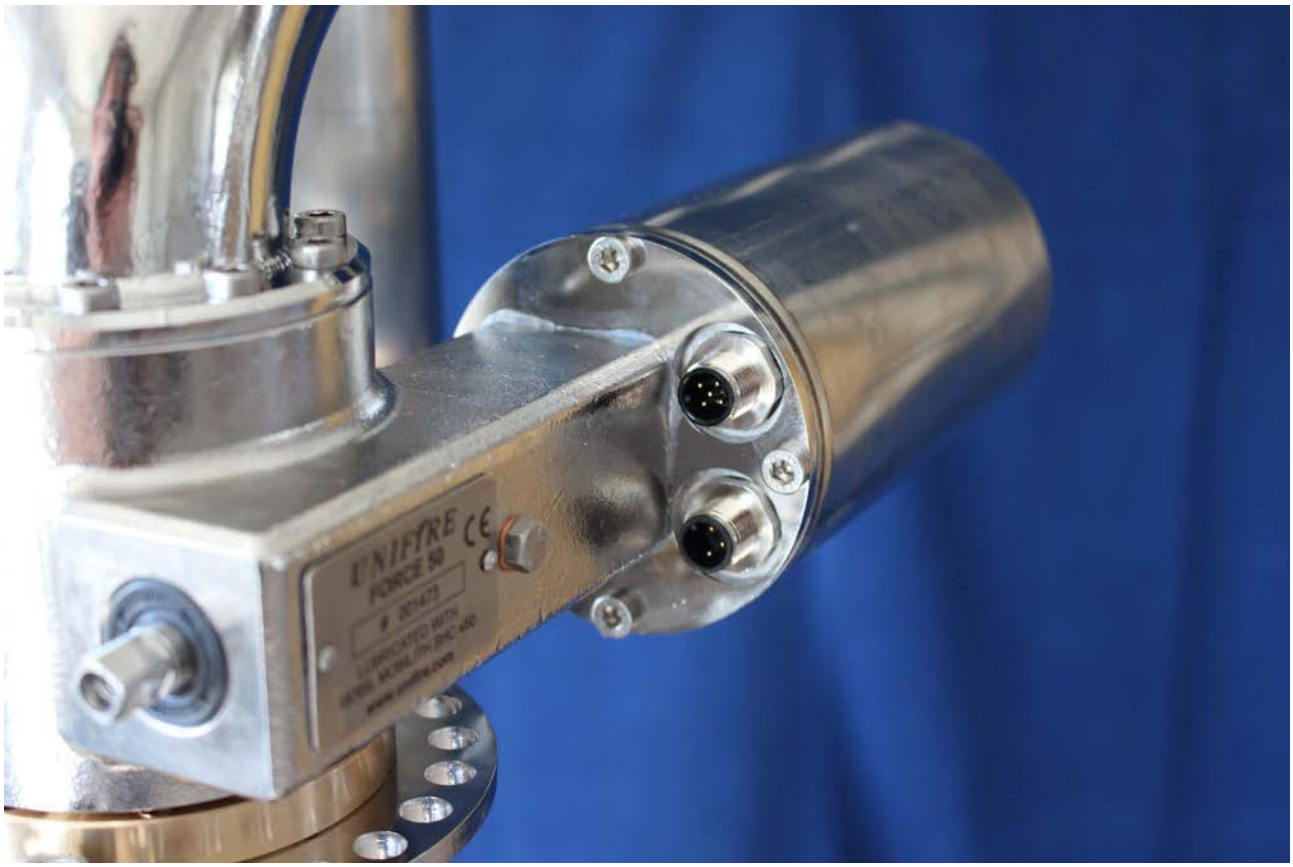
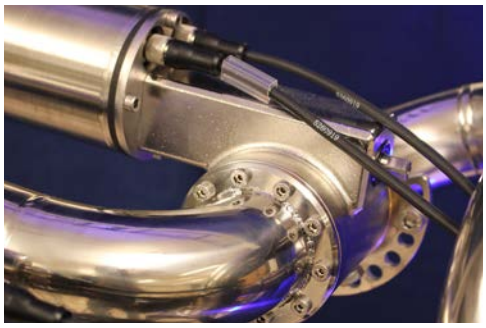
F50R-LT - Riot control Robotic Nozzle



F50R-LT



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

UNIFIRE

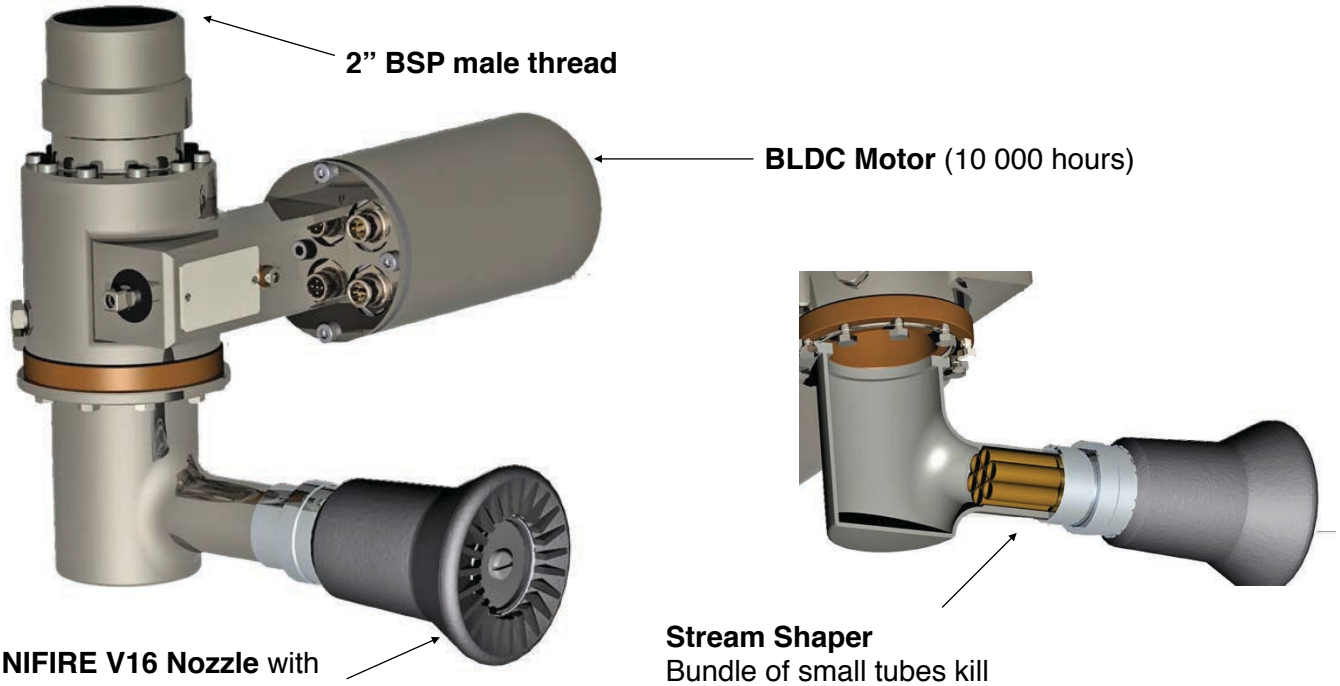
FORCE50
with Smooth Bore Tip

- Force 50 Heavy Duty industrial robotic nozzle
- Smooth bore nozzle tip (24mm or 32mm) provides a focused, high-impact jet
- 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):
FORCE50-BLDC
FOR24100 [24mm] or
FOR32100 [32 mm]

UNIFIRE

F50R-ST
Side Turret



The Unifire F50-ST is designed as compact robotic side turret nozzle for mounting under riot control vehicles for protecting the vehicle from approach. It can be controlled in an oscillating pattern or by control dial. Motor and gears are mounted above the undercarriage, allowing the motor and gears to remain fully protected and invisible.

SPECIFICATIONS:

- Inside Ø: 50 mm
- V16 Nozzle Tip - Flow up to 500 lpm @10 bars
- 167 mm tall
- 213 mm from center to end of motor cover
- Material: 316 stainless steel, bronze gear wheel
- BLDC motor in welded stainless steel enclosure
- Connection by two M12 connectors for each motor
- Rotation speed up to 38°/second
- Connection to the vehicle by 2” BSP thread.
- Connecting pipe dimension on the vehicle is 54 x 2 mm

Part Number(s):
F50R-ST

UNIFIRE

UNIFIRE FORCE 50 ROBOTIC NOZZLE SPECIFICATIONS

Item / Feature:	Description:
Force 50 BLDC Robotic Nozzle Chassis:	2” electric 24V brushless motor (BLDC) robotic nozzle (a.k.a. “remote control monitor” or “water cannon”) suitable for firefighting. Made of 316L Stainless Steel (EN1.4404). 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. Smooth, large (50mm) pipe bends for minimal friction loss. Fully integrated and enclosed stainless steel worm gears, with Bronze (CuSn12) gear wheels. Fully enclosed BLDC brushless motors provide extremely long life, high torque and allow extremely accurate positioning and position feedback. Modular design for capability of changing damaged pipe sections and gear housings. Very low-maintenance; never requires re-greasing. Mass: 18 kg with nozzle. Dimensions: 50 x 35 x 22 cm. Ambient temperature range: -25°C to +70°C.
INTEG 50 Jet/Spray Nozzle:	2” electrically adjustable jet/spray firefighting water/foam nozzle. Generates a full, effective fog cone. Step-less, adjustable spray angle from straight stream, over narrow spray to 140° spray. Stainless steel 316L, remote controlled. Fully enclosed BLDC brushless motors provide extremely long life, high torque and allow extremely accurate positioning and position feedback. Fully integrated gear drive mechanics and integrated DC motor. Multi-connector for quick and simple installation.
Monitor connection input:	2" male BSP, or DN50 or DN65 Flange. ANSI or JIS flange optional.
Monitor Range of Motion:	360° horizontal; 180° vertical (+/- 90° from horizontal). Range can be easily set to any range desired.
Monitor Movement Velocity:	18°/sec. rotational; 12°/sec. vertical (with optional high-speed rotational motors of: 38°/sec.).
Progressive, multi-directional movement:	Progressive speed control from extremely slow to full speed; simultaneous movement horizontally, vertically and nozzle jet/spray pattern control.
Soft-stop end positions:	Range of motion set via software thereby avoiding wear and tear at limits of movement.
Flow Range:	500 to 2000 liters (130 to 530 U.S. gallons) per minute. Manually adjustable to accommodate desired flow.
Operating Pressure	Recommended pressure range: 5-12 bar. Max 16 bar.
Maximum Reach:	65 meters at 2000 liters per minute at 10 bars in jet stream mode.

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UNIFIRE FORCE 50 ROBOTIC NOZZLE SPECIFICATIONS

Item / Feature:	Description:
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:	Multi-connectors on monitor and joystick electrical connections, allowing for quick installation, troubleshooting and replacement.
CANBUS Joystick Controller:	Light weight (1 kg), IP67 CANBUS (extended frame format - 29 identifier bits) Joystick with: Programmable park (stow) position; Progressive speed control; 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); Position feedback LED indicators on joystick panel to indicate relative position horizontally, vertically and nozzle pattern; Record and play feature; Two auxiliary device control buttons (such as for a valve, light, etc.). M12 multi-connector on joystick for quick replacement capability. Weight: approximately 1 kg.
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)	TARGA PLC is a 24V CANBUS controller for Unifire robotic nozzles, featuring up to 6 motor outputs, and numerous digital and analogue inputs and outputs. Multi-connectors for quick installation and replacement. Networkable with other monitors / MCU's / devices and peripheral devices, such as lights, valves, flame detectors, cameras, tank level sensors, etc.

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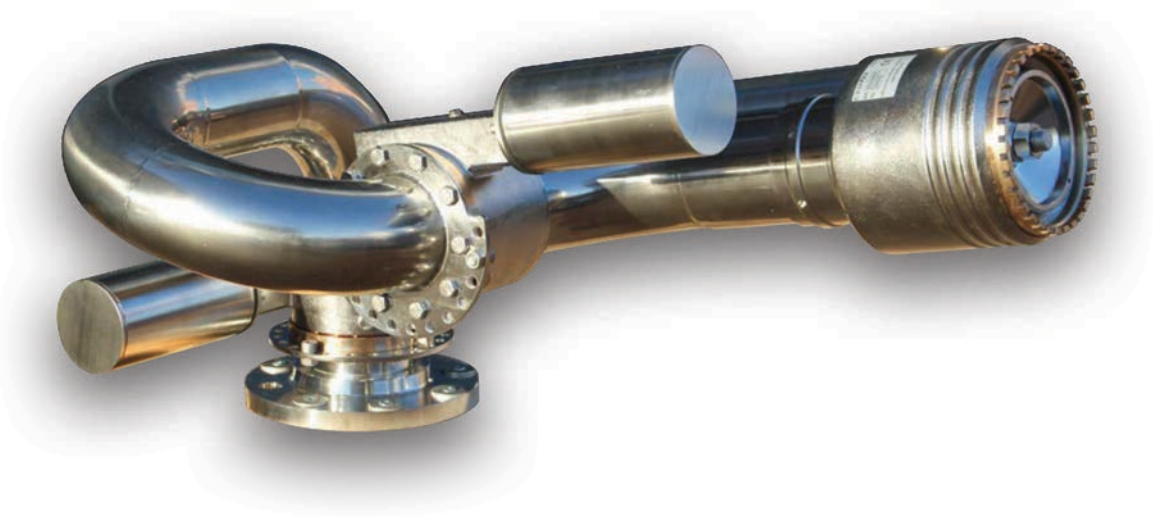
FORCE 80
ROBOTIC NOZZLES

Max Flow: 5000 lpm @ 10 bars (1320 US gallons @ 145 psi; 300 m3/hr)
Max Reach: 85 meters



In this section we present the Unifire Force 80 robotic nozzle with BLDC motor technology.

UNIFIRE

FORCE 80
with JETRANGE tip

- Heavy duty industrial robotic nozzle
- JETRANGE 80 nozzle tip provides a focused, high-impact jet
- Interchangeable flow discs (baffles) to accommodate your flow requirements
- 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°
- Over 360° Horizontal Movement (set any range by software)
- Over 180° Vertical Movement (set any range by software)
- 80 mm internal chassis pipe diameter
- Virtually maintenance-free
- Max Flow: 5000 lpm @ 10 bars (1320 US gallons @ 145 psi; 300 m3/hr)
- Max Reach: 85 meters
- Light Weight: 35 Kg (77 lbs.) including nozzle
- Connection by 3” male BSP or flange (ANSI, DIN, JIS)

Part Number(s):
FORCE80BLDC
JR80

UNIFIRE

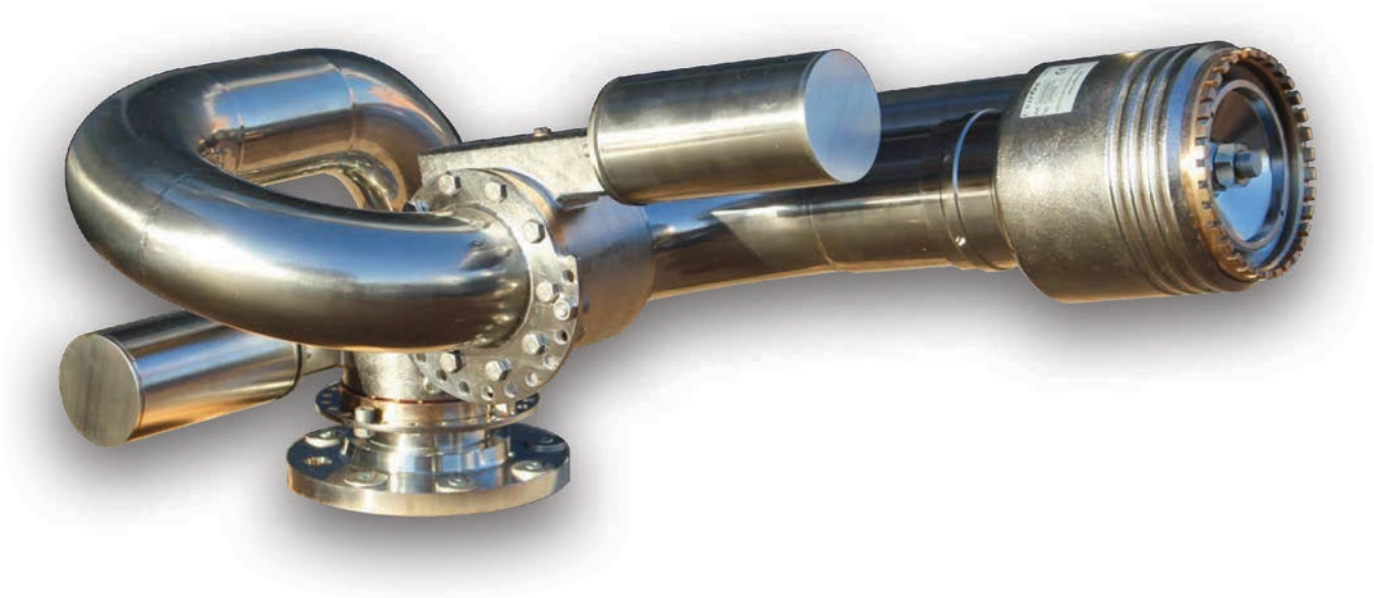
FORCE 80
with Smooth Bore tip

- Heavy duty industrial robotic nozzle
- Smooth bore nozzle tip (48 mm) provides a focused, high-impact jet
- 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°
- Over 360° Horizontal Movement (set any range by software)
- Over 180° Vertical Movement (set any range by software)
- 80 mm internal chassis pipe diameter
- Virtually maintenance-free
- Max Flow: 5000 lpm @ 10 bars (1320 US gallons @ 145 psi; 300 m3/hr)
- Max Reach: 85 meters
- Light Weight: 35 Kg (77 lbs.) including nozzle
- Connection by 3” male BSP or flange (ANSI, DIN, JIS)

Part Number(s):
FORCE80BLDC
FOR48300

UNIFIRE

FORCE 80
with INTEG 80 jet/spray tip



- Heavy duty industrial robotic nozzle
- Integ 80 firefighting robotic tip (*see* Integ 80)
- 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°
- Over 360° Horizontal Movement (set any range by software)
- Over 180° Vertical Movement (set any range by software)
- 80 mm internal pipe diameter
- Virtually maintenance-free
- Max Flow: 5000 lpm @ 10 bars (1320 US gallons @ 145 psi; 300 m3/hr)
- Max Reach: 85 meters
- Light Weight: 35 Kg (77 lbs.) including nozzle
- Connection by 3” male BSP or flange (ANSI, DIN, JIS)

Part Number(s):
FORCE80BLDC
INT80124B

UNIFIRE

ROBOTIC NOZZLE CONTROLLERS

The following controllers are our standard solutions. The TARGA PLC, however, allows Unifire to offer an extremely wide variety of system controllers, including most commercially available solutions.

If you require a special solution for your applications, we can offer it. Contact us to learn more.

UNIFIRE

POINTER
Synchron Controller

Seriously **Heavy** duty!! All chrome plated brass and stainless steel. Butter-smooth action. Massively supportive when the going gets tough!

GENERAL DESCRIPTION

The POINTER is Unifire's unique, synchron control device designed to provide a simple and intuitive human interface for controlling the Unifire's robotic nozzles.

The robotic nozzle's movements exactly follow and match the position of the POINTER.

The base is fitted with potentiometer to provide exact position values to the TARGA PLC, which in turn aim the robots to exactly the same horizontal and vertical angles as the POINTER. The hand-grip has a trigger switch at the front. The switch has a spring return. The switch will be connected directly to the vehicle's discharge valve. The water is discharged when the trigger is held, and stops when the trigger is released.

SPECIFICATIONS

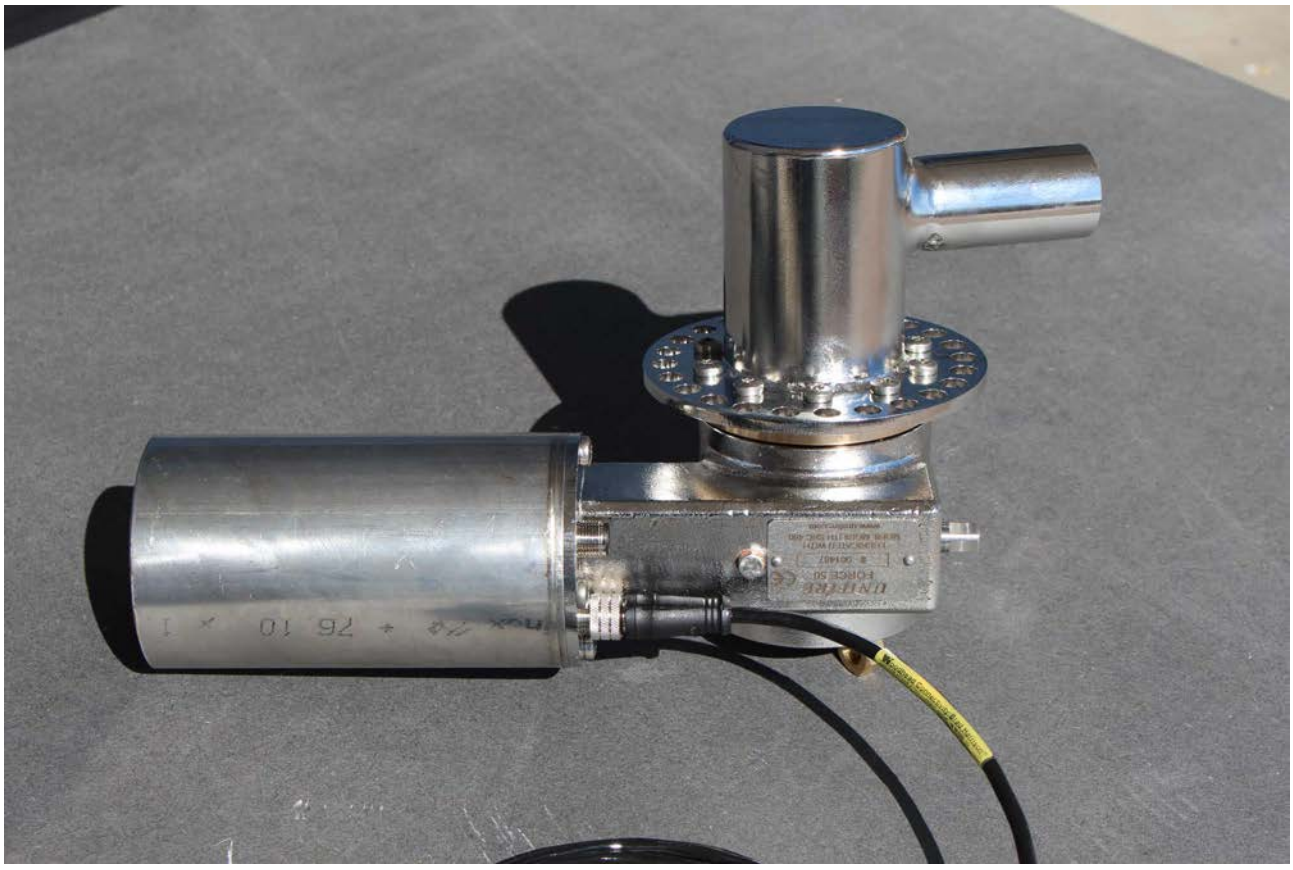
- 142 x 130 x 70 mm (above the panel into which it is mounted)
- Material: Chrome plated brass base; heavy duty plastic grip cover on a 4 mm stainless steel plate
- 5-pin M12 connector connect to the TARGA PLC
- 3-pin M12 connector to route the trigger button to discharge valve control
- Standard rotation range: +70°/-20° vertical, 270° horizontal

Part Number(s):
PTR101
PTR110 (with nozzle tip controller)

UNIFIRE

POINTER

POINTER and SIDE TURRET



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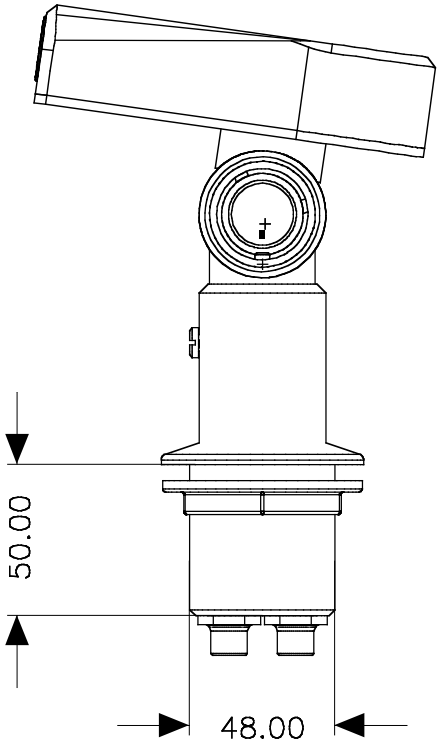

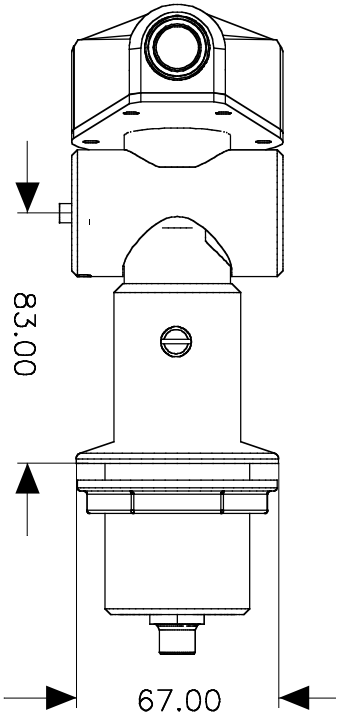

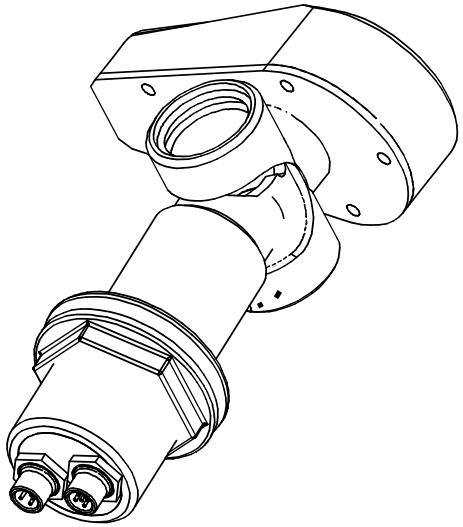

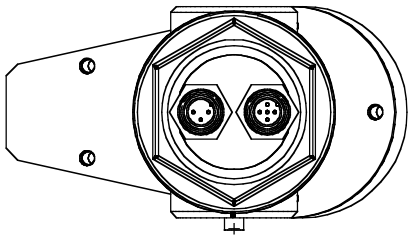

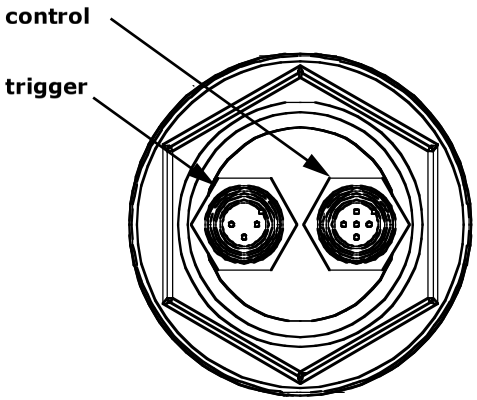

POINTER
pin configuration control:

P1	brown - analogue in Rotation
P2	white - 5V
P3	blue - GROUND (0)
P4	black - analogue in Vertical
P5	grey - not connected

POINTER
pin configuration trigger
P1 brown
P2 not connected
P3 blue

UNIFIRE

Title
POINTER

Drawing Number

Issue

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VIPER Joystick

The VIPER by Caldaro is a capacitive grip joystick which only activates when fully gripped by the operator, preventing accidental nozzle movement.

Progressive speed control, trigger button to control a valve, and three definable buttons.

Designed to suit the most demanding applications in terms of mechanical strength and environmental requirements.

Typically for heavy duty applications, such as mining, wash-down and construction applications, where robustness and reliability are essential.

CANbus connection.

Trigger on index finger and three (3) definable buttons

Part Number(s):
FOR00217

DIGITAL Joystick

- Simple & Economical Digital Joystick
- Basic Functions: Up, Down, Left, Right.
- Optional separate, additional switches to expand functionality, such as nozzle spray pattern, valve control, record/play (additional costs may apply, please inquire)
- Simple mounting in dash or panel

Part Number(s):
FOR00219

TARGA
PLC's

If you require a special solution for your applications, we can offer it. Contact us to learn more.

UNIFIRE

TARGA
Robotic Nozzle PLC

TARGA PLC compact version for installation in dry, clean environment. Customer specific requirements are easily implementable. Up to 6 x BLDC divers. In addition up to 8 x analogue and digital inputs and outputs, all generic and definable to your individual specifications.

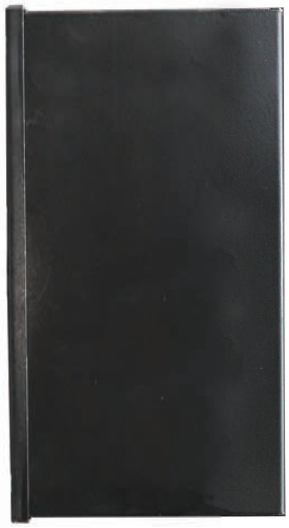
SPECIFICATIONS:

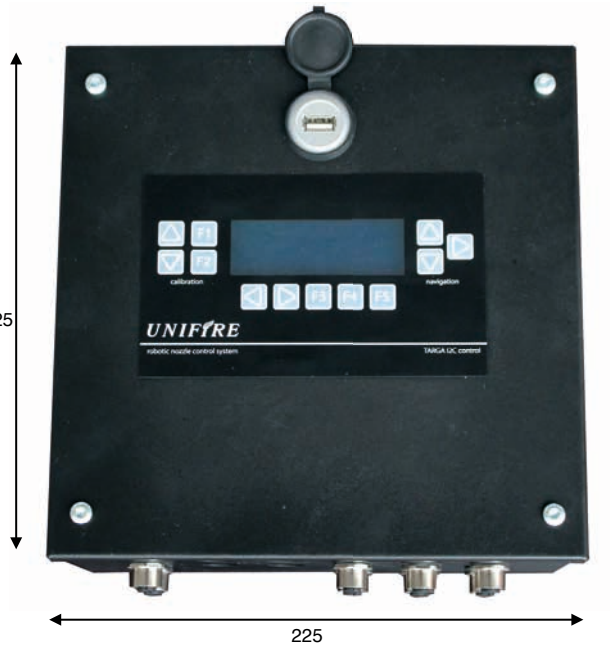
- IP20 Steel cabinet (must be installed dry and dust protected)
- Stainless steel 316L
- 225 x 125 x 125 mm
- Display and with push-button panel for setup and system diagnosis
- TARGA Robotic Nozzle PLC supports up to 6 x BLDC drivers
- Large number of digital and analogue inputs and outputs
- Simple quick installation with M12 multi-connectors
- Connect pressure and flow gauges, push-button controls, ”panic-button”, etc.
- Fully programmable and expandable
- USB-port for simple program upgrade
- 24 VDC / 2 + 20A fuse
- Average consumption: less than 100 W

Part Number(s):
TARGA2
TARGA3
TARGA4
TARGA5
TARGA6

UNIFIRE

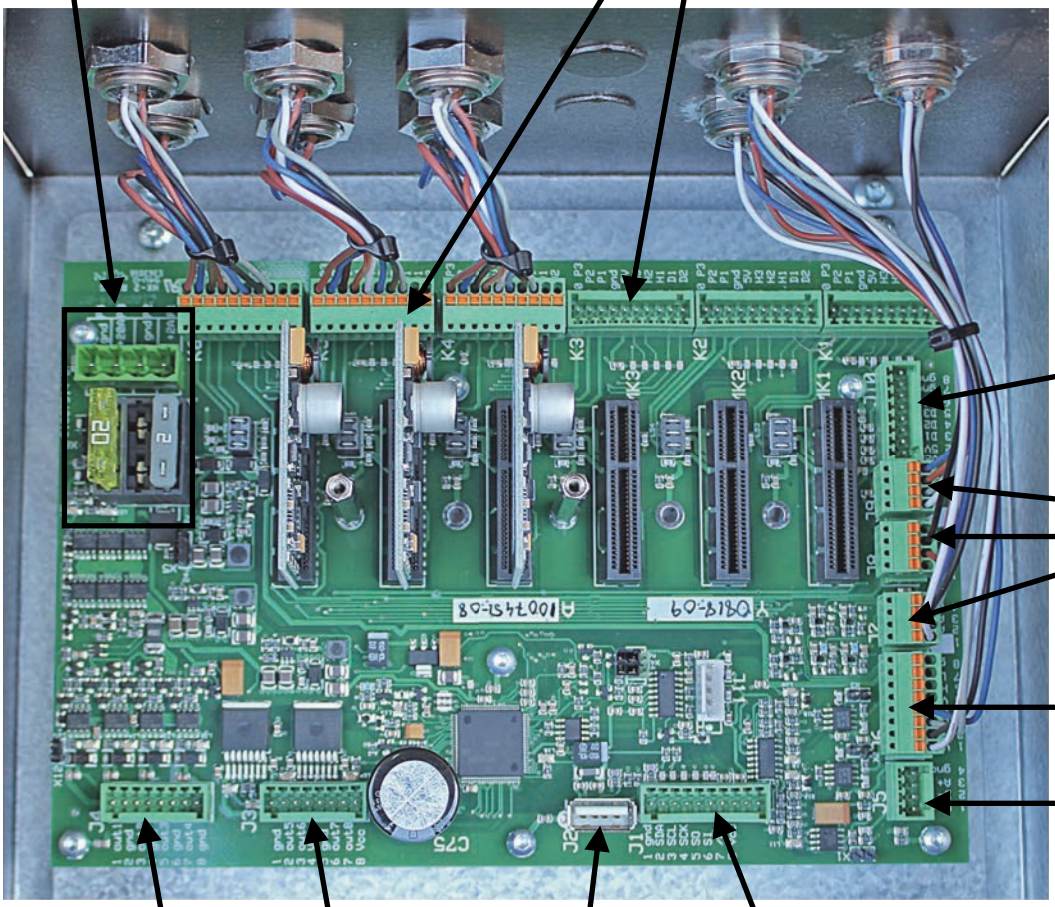
TARGA Robotic Nozzle PLC dimensions
225 x 225 x 125 mm





Text as example only. Actual text will reflect each individual system setup.

TARGA PCB connection plan



X-TARGA
Robotic Nozzle PLC cabinet

TARGA PLC in IP66 heavy duty industrial / marine 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 Weidmüller cabinet type: KTB MH 453820 S4E1
- IP66 protection
- ROXTEC cable gland EzEntry10
- Stainless steel 316L
- Dimensions: 458 x 382 x 200 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

UNIFIRE

CABLES

The following controllers are our standard cables. Optional cables are available. Contact us to learn more.

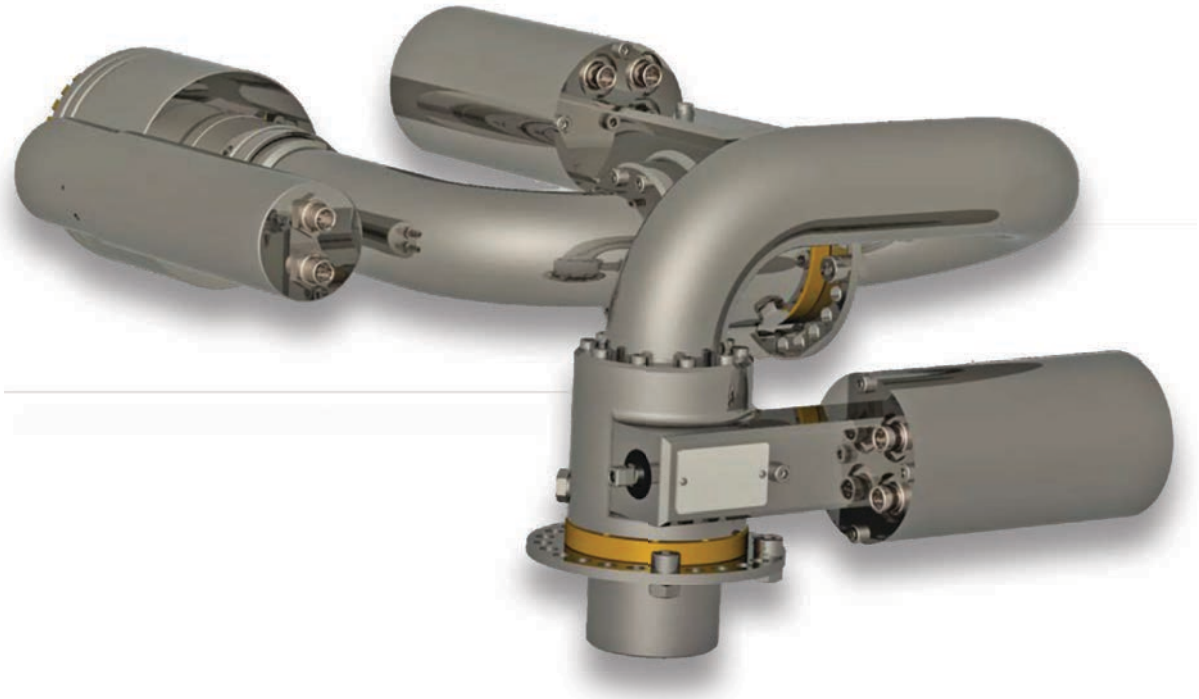
CABLES
with M12 Connectors

- 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
M1253 (3 pin for power)
FOR00415 (power cable)

UNIFIRE

BENEFITS OF UNIFIRE'S ROBOTIC NOZZLES



UNIFIRE

Feature	Benefits to You
Extremely simple to Install	Installers of Unifire's monitors will be pleasantly surprised at how easy installation is. All electric connection points on standard systems feature M12 multi-connectors for simple connection, in a snap. In minutes you'll be up and running. Installing a water cannon has never been so easy.
Light Weight & Compact	Unifire's Force water cannons are extremely compact and light weight, for easier installation, less bulk, simpler handling, etc.
Virtually Maintenance-Free	Unifire's water cannons require virtually no maintenance. Never grease them. Never paint them. Just a dash of TLC, and Force water cannons provide you with worry free operation for years and years.
Stainless Steel 316L construction	Robust, corrosion-free, no paint to scratch or fade, ideal for use with sea water, chemical additives, harsh environments, light weight, extremely durable & long lasting.
Highest Quality on the Market	Unifire's equipment is made to be the highest quality monitors available. This increases performance, longevity and life cycle, ease of use and enhances the overall user experience.
Unsurpassed Performance	Expect a much better performance, range, control and overall experience over any other water cannon in the size range.
One-Hand Joystick Operation with Nozzle Control on Tip of Joystick Shaft	Simple, light weight joystick can be moved around and used where you want. Totally intuitive, simple to use, and yet powerful, full of features, and highly accurate control.
Natural Record / Play	Allows the operator to record a pattern in real time, and play it back whenever desired. Just hit "record", use the cannon as you wish, quit recording. Just hit "play" to repeat in a loop until you take over again.

Feature	Benefits to You
Advanced Position Feedback Indicators on the Joystick Itself	Allows the operator to know how the cannon and nozzle are positioned before spraying water, even when the cannon is not in view. Saves water and avoids spraying water where you don't want it.
Progressive, Multi-Directional Movement	Want to move the cannon up/right diagonally? Want to be able to precisely control the speed by how hard you press the joystick shaft in any direction? Welcome to Unifire. Unlike many water cannons that allow movement in only one direction at a time, or only one or two speeds, Unifire's controls are natural, multi-directional and progressive. From so slowly you can barely see the movement, to up to 40 degrees rotation per second, and everything in between, no water cannon on the market comes close to the ease and beauty of control as Unifire's Force series water cannons.
High-Speed Movement Capabilities	For some applications, you may want to be able to move the cannon very quickly. Unifire's water cannons provide the option of high-speed motors for very rapid cannon movement.
Full Spherical Coverage (360º horizontal rotation / 180º vertical; easily limited by limit bolts)	Allows the manufacturer and user maximum range of motion. And, with Unifire's simple to set limit bolts, you can easily limit the cannon's up/down and left/right movements for a perfect-fit solution.
Soft-Stops for No-Wear-Or-Tear on motors / gears / end positions	Unifire's Force water cannons automatically learn during calibration the end positions that you set with the limit bolts, and they never hit them again. This feature of "soft stops", which are controlled by Unifire's advanced software, avoids wear and tear on gears and motors, since there are no mechanical jolts or impacts. This also significantly extends the life cycle of the products.
Highly accurate positioning	Need to control a water cannon with a high degree of accuracy for special applications? Unifire offers systems capable of controlling with an accuracy of more than one-one-hundredth (1/100th) of a degree!

Feature	Benefits to You
The most advanced electronics on the market	Some customers require special "bells and whistles". Want to create a network of water cannons which are controlled automatically by infrared cameras and computers? Want to control them over the Internet? Fiber optics? Wireless radio remote? Off the shelf 3rd party joysticks? Special protocols and interfaces? Want Unifire to control valves, lights, and other electronic devices? Unifire has you covered with its state-of-the art electronics systems that provide power and flexibility you will find nowhere else on the market.
BLDC motors	Robotic precision control is now standard on Unifire's Force water cannons with brushless motors. 10,000 hours life expectancy, and ***much*** higher torque, precision and speed than standard DC motors offered by our competitors, BLDC motors take Unifire's already world-renowned nozzles to a level unseen in the industry—until now!
CANbus communication and numerous other protocols	Vehicle builders will be thrilled to know that Unifire's control systems allow for communication with other on board systems and control devices, over a wide variety of standard communication protocols and interfaces. This makes Unifire's systems the most flexible on the market and allows virtually unlimited possibilities to work with other systems, such as lights, valves, auto-leveling devices and much, much more.
Service via USB / Email	Ever heard of a water cannon that can record all activity on a built-in USB port? Welcome to the future of fire fighting. Simply plug in a flash stick into the USB port, record, and send the file to Unifire for instant analysis and trouble-shooting. Unifire will know exactly what the issue is and how to solve it, in a "flash!"

UNIFIRE

Advanced Robotic Nozzle Technologies

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