

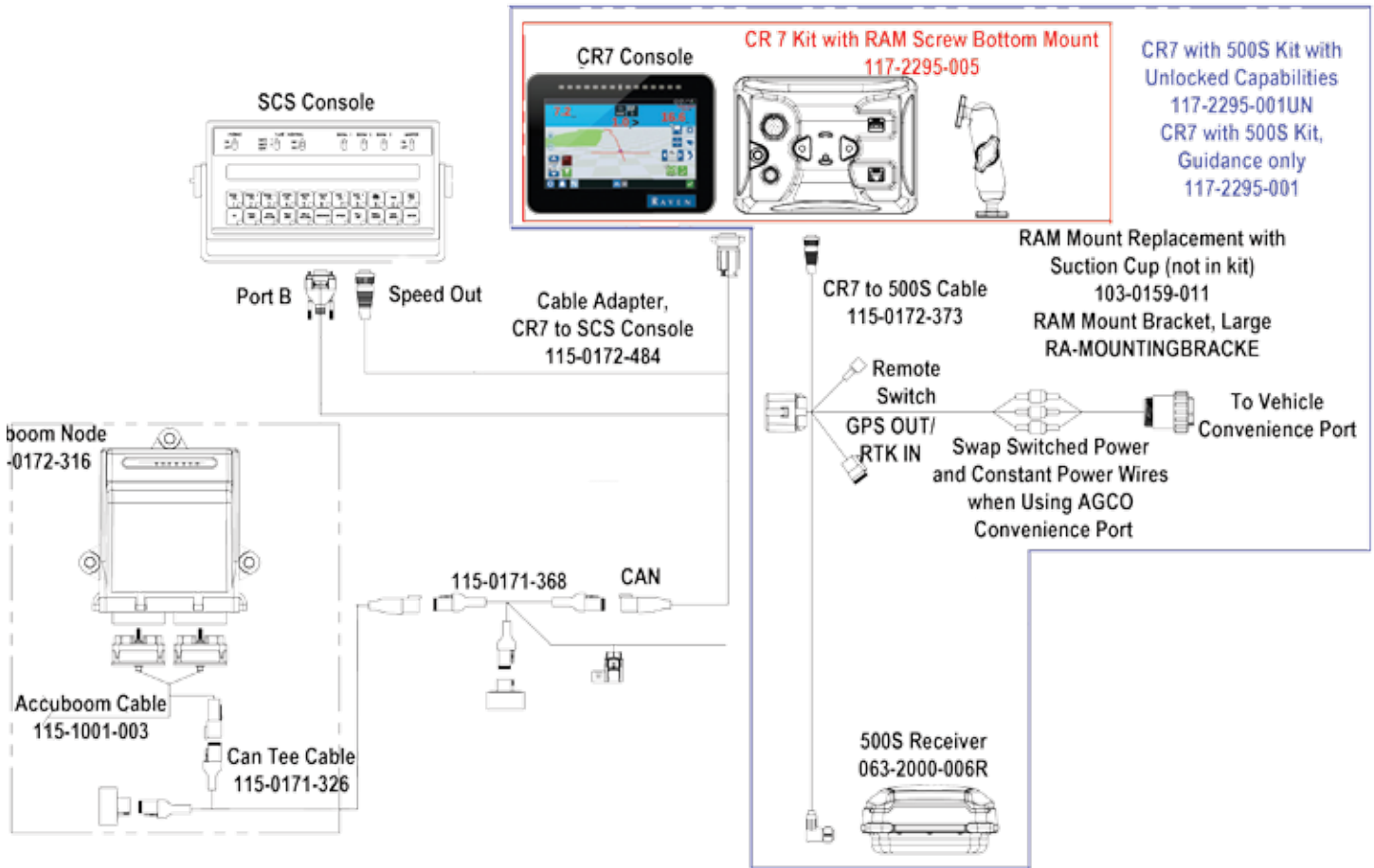
RAVEN FIELD COMPUTER COMPARISON

| | VIPER® 4+ | CR12™ | CR7™ |
|--|---------------------|---------------------|------------------|
| Screen Size | 12.1-inch (30.5 cm) | 12.1-inch (30.5 cm) | 7-inch (17.8 cm) |
| Screen Resolution | 1024 x 768 | 1024 x 768 | 480 x 800 |
| Internal storage capacity | 30 GB | 30 GB | 8 GB |
| Orientation | User Configurable | Landscape | Landscape |
| Customizable Screen Layouts | ✓ | ✓ | ✓ |
| WiFi capable | ✓ | ✓ | ✓ |
| Camera Inputs | 4 | | |
| SOFTWARE FEATUAURES | | | |
| Street Maps | ✓ | ✓ | ✓ |
| Guidance Patterns | 4 | 4 | 4 |
| Single and Multi VRA | Unlock Required | Unlock Required | Unlock Required |
| Products | 10 | | 5 |
| VRA Products | 10 | | 5 |
| Sections | 105 | | 16 |
| Bin Chaining | ✓ | | |
| Operation Planning | | ✓ | |
| agX Integration | ✓ | | |
| ISO XML GFF/Boundary | ✓ | ✓ | ✓ |
| Product and Machine Databases | ✓ | | |
| User Configurable Product Profiles | ✓ | | |
| COMPATIBLE HARDWARE | | | |
| WatchDog Weather Station | Unlock Required | | |
| APPLICATION CONTROLS | | | |
| Hawkeye and Hawkeye HD | ✓ | ✓ | ✓ |
| ISOBUS Product Control | ✓ | ✓ | ✓ |
| Raven Product Control Nodes | 10 | | |
| Raven RCM | ✓ | ✓ | ✓ |
| SCS Control Consoles | ✓ | ✓ | ✓ |
| Sidekick Pro | ✓ | | |
| Sidekick Pro ISO and Sidekick Pro ICD | ✓ | ✓ | ✓ |
| GUIDANCE & STEERING | | | |
| 500S GPS Receiver | | | ✓ |
| 700S GPS Receiver | ✓ | ✓ | ✓ |
| RS1 Steering | ✓ | ✓ | ✓ |
| SC1 Steering | ✓ | ✓ | ✓ |
| SmarTrax and SmarTrax RTK | ✓ | ✓ | ✓ |
| SmarTrax MD | ✓ | ✓ | ✓ |

The CR7 is a 7-inch lightweight field computer with customizable in-job layouts. A simple widget concept, easily accessible settings, and ISO Universal Terminal (UT) and Task Controller capabilities make this mighty unit an affordable, plug-and-play system.

Raven CR7 Features and Benefits:

- Multiple language support and customizable units
- Simplified, customizable widget layout
- Ability to access settings page from inside a job
- Map-based navigation
- Auto field boundaries keep you organized automatically
- Interactive field/job list and map view
- Slingshot-ready for file transfer, remote support, and OTA software updates
- Compatible with Raven AccuBoom, serial SCS consoles, and external lightbar support
- ISO Universal Terminal and Task Controller functionality via unlock
- Straight A-B, A plus heading, pivot, contour, and last pass guidance
- Compatible with autosteer products including SmarTrax and MD
- Sub-meter single frequency GPS and GLONASS (optional external)
- Scalable GPS (optional external)

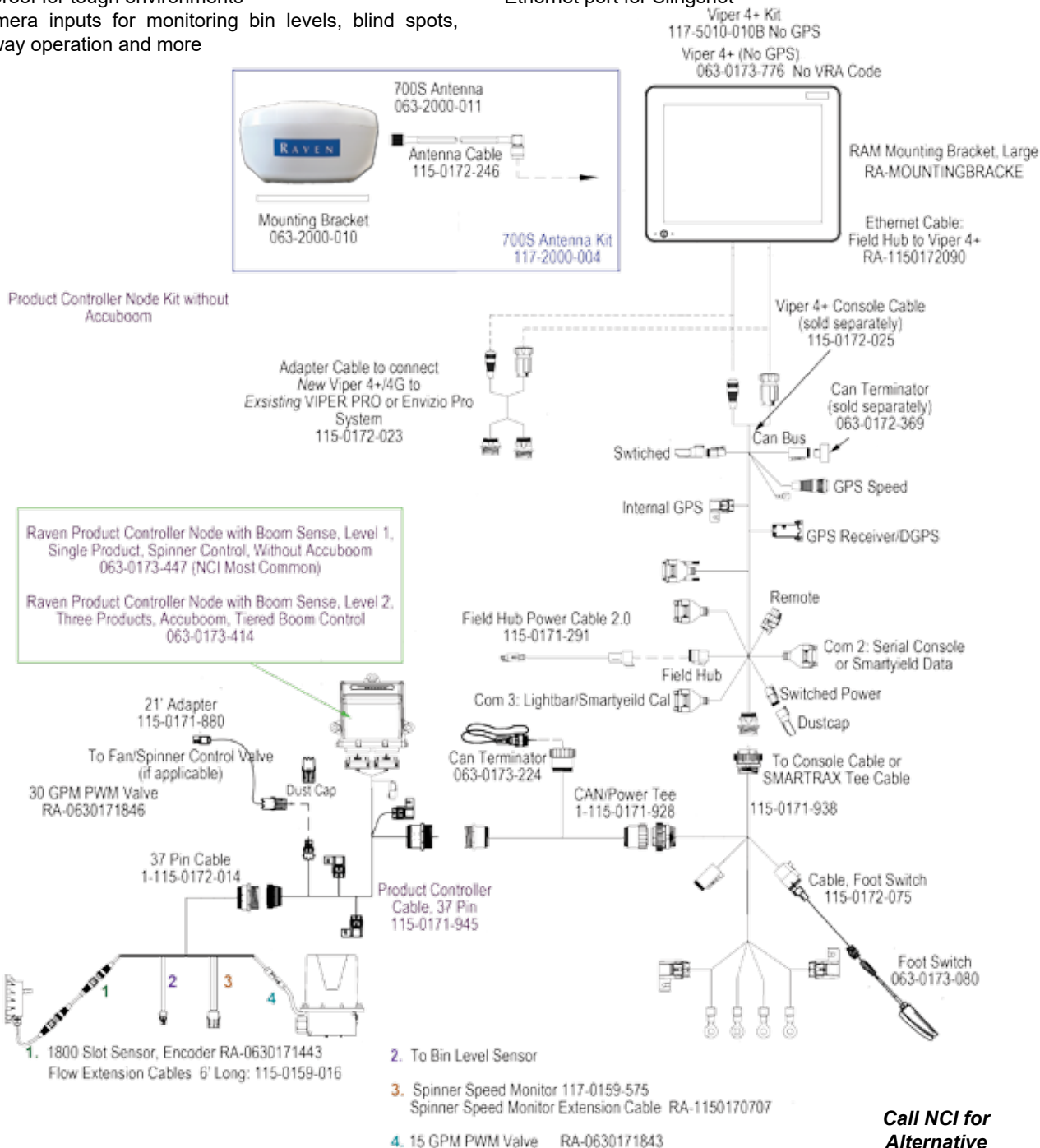


Viper® 4+ integrates with Raven's full line of products into one networked platform that offers a responsive touchscreen and an intuitive, tablet-style interface with swiping features and horizontal or vertical orientation. Customize your Viper® 4+ by user and machine - it's color blind which means it works with equipment of every brand. Easy job set-up, fewer touches, and greater efficiency allow for extraordinary data management capabilities.

Viper® 4+ is also the recipient of an AE50 award celebrating product innovations in agriculture, food, and biological systems.

Raven Viper 4+ Benefits:

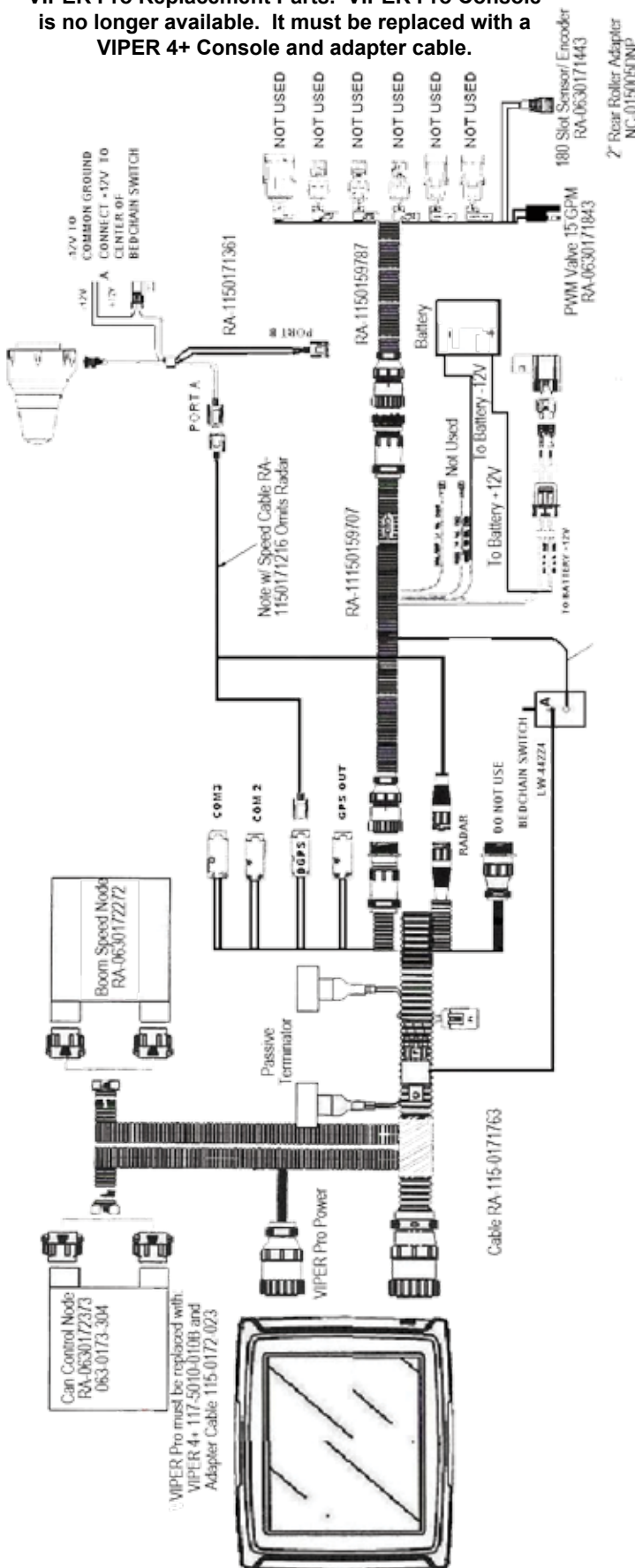
- Customize by user and machine
- Horizontal or vertical orientation
- Sleek design with 12.1" responsive touchscreen and intuitive, tablet-like interface and state-of-the-art rugged magnesium alloy enclosure
- Dustproof for tough environments
- 4 camera inputs for monitoring bin levels, blind spots, roadway operation and more
- Integrated, fully scalable GPS receiver
- Customize user interface
- Set up machine and multiple product profiles
- ISOBUS compatible
- Wireless over-the-air software updates
- CANbus ports and 2 USB ports
- Ethernet port for Slingshot



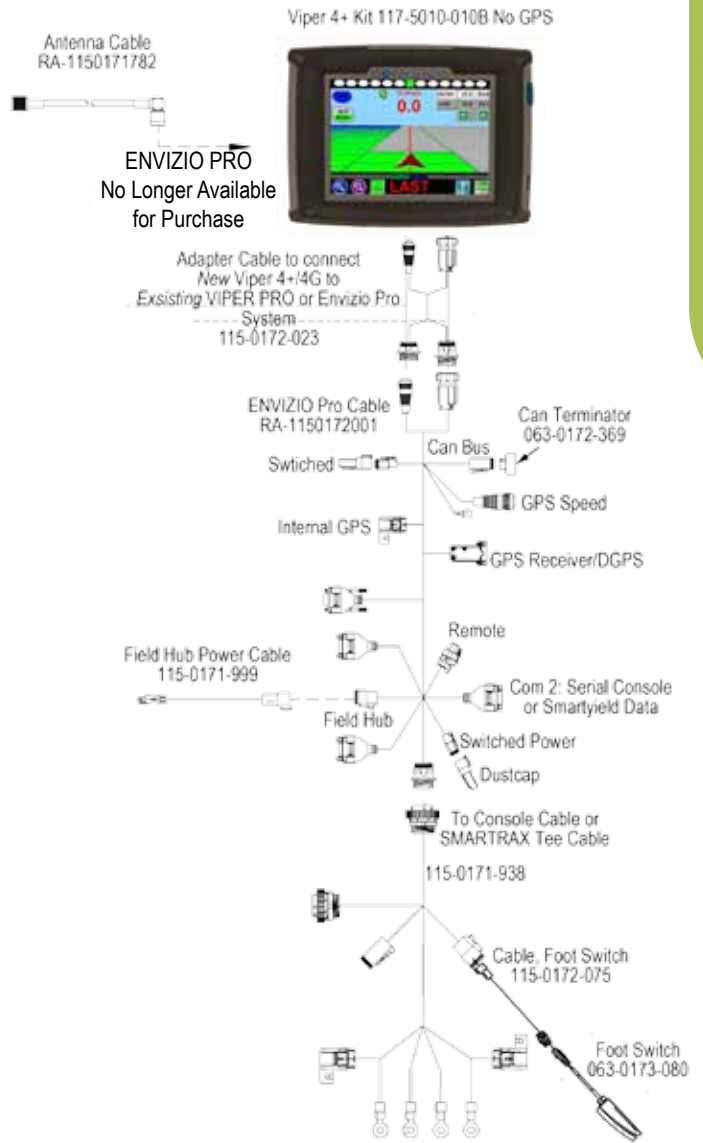
Call NCI for Alternative Connections.



VIPER Pro Replacement Parts. VIPER Pro Console is no longer available. It must be replaced with a VIPER 4+ Console and adapter cable.



ENVIZIO Pro Replacement Parts. ENVIZIO Pro Console is no longer available. It must be replaced with a VIPER 4+ Console and adapter cable.



For all other connections for the VIPER PRO and ENVIZIO PRO, see the VIPER 4+ Drawing.



Rate Control Module Replaces the current ISO System. You can buy replacement parts for ISO for a time but they will be phased out.

Raven Rate Control Module Benefits:

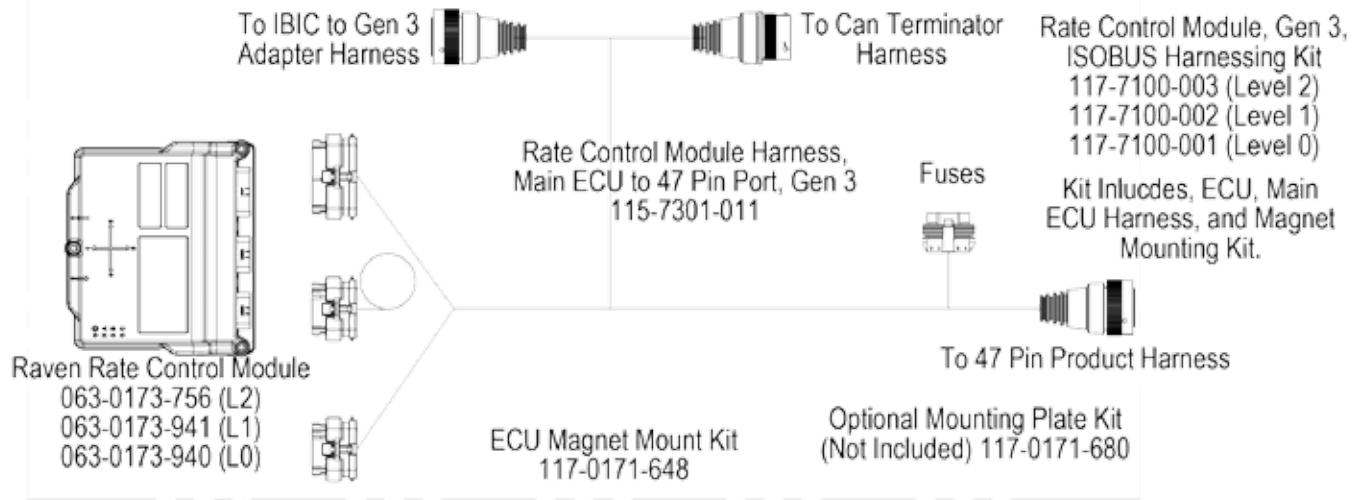
- Navigate and manage multiple products, tallies, and sensor data
- Diagnostic tests and readings to easily calibrate, tune and troubleshoot system
- Compatible with ISOBUS Universal Terminals and Task Controllers
- Multi language support
- IP 67 environmental rating for the harsh environmental conditions
- Integrated magnet mount option to easily attach and detach with any metal frame
- The RCM is compatible with many ISOBUS virtual terminals on the market, including the Viper® 4+, CR7™ and CR12™.

Features Available for Spreaders:

- Rate control up to 4 products
- Section control up to 12 On/Off sections
- Spinner/Fan RPM monitoring and control
- Control auxiliary functions such as gates or oilers
- Pair with 3rd party scale solution for simplified product calibration; includes in-cab monitoring

Features Available for Sprayers and Liquid Applicators:

- Single liquid product control
- Sidekick Pro™ ICD compatible up to 4 Direct Injection pumps
- Tank fill monitoring

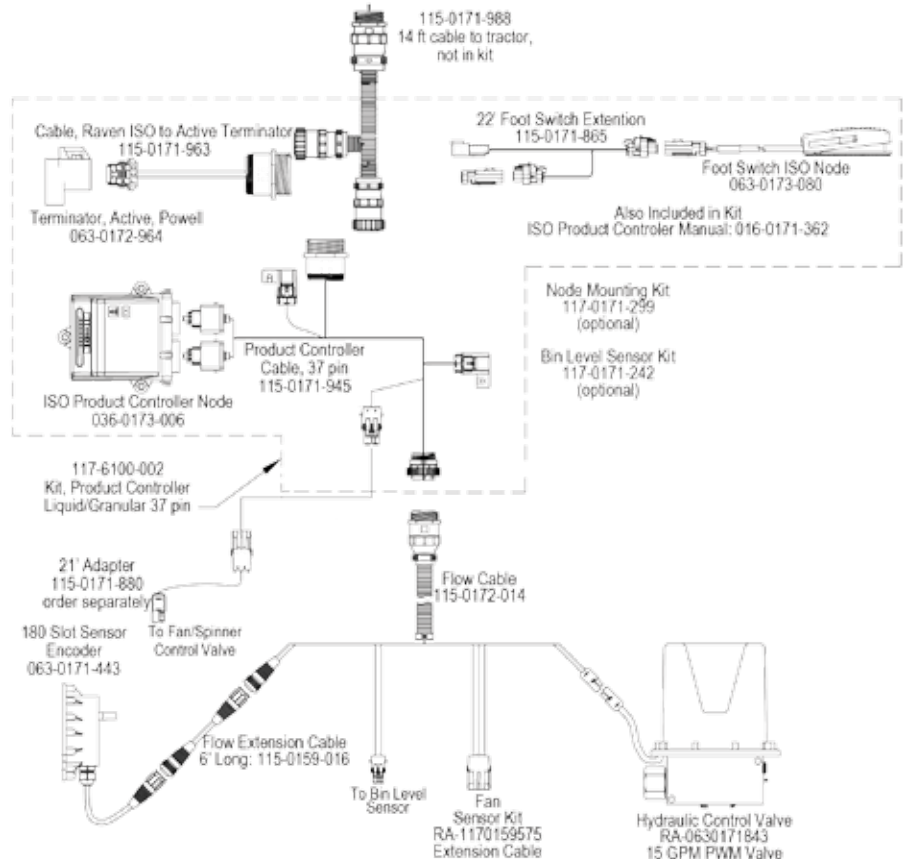


ISO Product Control

The **Raven ISOBUS** single product control node is designed to add liquid or granular speed compensated product control capabilities to ISOBUS virtual terminals. Adding the Raven ISOBUS product control node allows machine operators to monitor and control a Raven product control system directly from a virtual terminal (VT) display.

Features and Benefits

- Optional switch box for manual override of individual section
- Universal product page no matter what controller you use
- Task controller interface, section control compatibility, data-logging, and variable rate application with supporting virtual terminals
- Liquid control or granular control with spinner control



Raven's full line of SCS consoles are specially designed to match your application needs reliably and economically.

Whether you start small or are looking for a spray console with more performance capability, you are sure to find it in Raven's product guide below. And when you are ready for the next step, Raven has a multi-function field computer with your name on it and a simple way to help you make the transition with our handy Switch Pro control console.

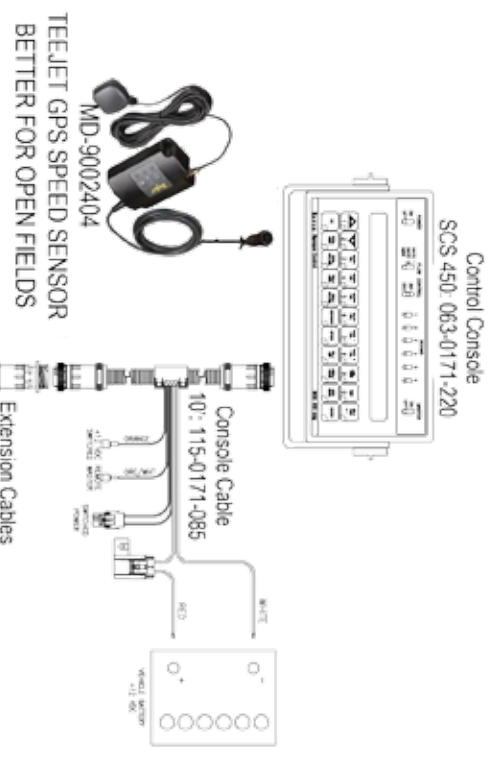
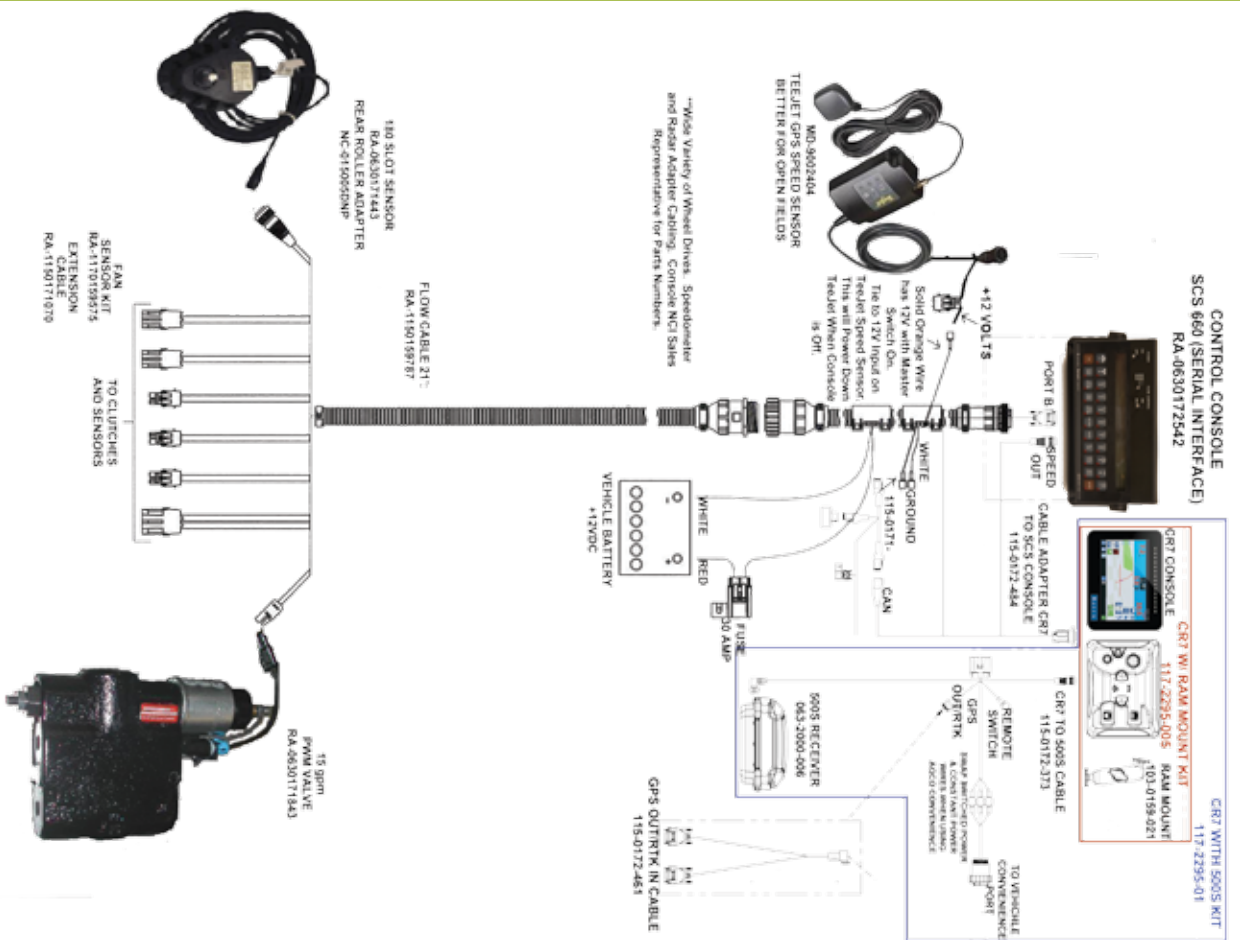
SCS Console Features:

- Simple operation
- Low-limit function
- Digital boom pressure read-out
- Supports a variety of Flow Meters and Control Valves
- Audible alarms
- Self-test function
- Rate bump features



| Customer Guide for Raven SCS Spray Consoles | | | | | |
|---|--|-------------------------------|------------------|------------------|--------------------------------------|
| Spray Console | Product Capability | Product Forms | Direct Injection | Boom Control | Boom Switches |
| SCS 4400™ | 5 Products: 1 Hardwired, 4 via CANbus addition | Liquid, Granular, NH3 | Sidekick Pro | 10 Boom Sections | Equipped with 7 switches |
| SCS 4600™ | 5 Products: 1 Hardwired, 4 via CANbus addition | Liquid, Granular, NH3 | Sidekick Pro | 10 Boom Sections | Remote switches required |
| SCS 5000™ | 5 Products: CANbus equipped | Liquid, Granular, NH3 | Sidekick Pro | 10 Boom Sections | Remote switches required & CAN nodes |
| SCS 450™ | 1 Product | Liquid, NH3 | Sidekick | 6 Boom Sections | Equipped with 6 switches |
| SCS 460™ | 1 Product | Liquid, NH3 | Sidekick | 7 Boom Sections | Remote switches required |
| SCS 660™ | 1 Product | Liquid, Granular, NH3 | Sidekick | 7 Boom Sections | Remote switches required |
| SCS 660M™ | 1 Product | Liquid, Granular, NH3, Manure | Sidekick | 7 Boom Sections | Equipped with Master switch |







| Features | Centerline 220 | Martrix 430 | Matrix 430VF | Matrix Pro 570GS | Matrix Pro 840GS | Aeros 9040 |
|---|-----------------------------|-------------------------|-------------------------|---------------------------|---------------------------|-------------------------|
| Display Type | Monochrome, Non-Touchscreen | Full Color, Touchscreen | Full Color, Touchscreen | Full Color, Touchscreen | Full Color, Touchscreen | Full Color, Touchscreen |
| Display Size | 2.9" | 4.3" | | 5.7" | 8.4" | 8.4" |
| Guidance Mode | | | | | | |
| GLONASS Signal | Opt | Std | Std | Opt | Opt | Std |
| RXA-30 SBAS Antenna | Opt | Opt | Opt | Opt | Opt | Opt |
| RX520 L1/L2 PP GNSS Receiver (2-4" Accuracy) | | | | Opt | Opt | Opt |
| Return to Point | Std | Std | Std | Std | Std | Std |
| Field Area/Boundary Creation | | Std | Std | Std | Std | Std |
| Coverage Mapping | | Std | Std | Std | Std | Std |
| Applied Area Alert | | Std | Std | | | |
| Data Storage and Retrieval | | | | Std | Std | Std |
| Basic Reporting (KML/PDF) | | Std | Std | | | |
| Fieldware Link Software | | | | Std | Std | Std |
| Advanced Reporting | | | | Std | Std | Std |
| As-Applied Mapping | | | | Std | Std | Std |
| Automatic Rate Control | | | | | | Std |
| ISOBUS UT | | | | | | Std |
| 5 Machine Profiles, 5 Jobs, 5 Fields, Designed Specially for Orchard/Vineyard | | | | | | |
| Variable Rate Application | | | | Opt with 3rd Part Control | Opt with 3rd Part Control | Opt |
| Video Camera Monitoring | | | | Opt up to 4 | Opt up to 8 | Opt up to 8 |
| Droplet Size Monitoring | | | | Opt | Opt | Opt |
| BoomPilot™ Automatic Section Control | | | | Opt | Opt | Opt |
| UniPilot™ Assisted Steering | | | | Opt | Opt | Opt |
| FieldPilot Auto Steering | | | | Opt | Opt | Opt |



ARC & TASC CONSOLES

ARC & TASC Series Features:

- Large, backlit LCD display shows speed, application rate, total applied, working width, distance covered, field area and total area
- Scan feature monitors and displays all functions
- Error message system signals misapplication and identifies problem source
- Ground Speed Override function can be set to match operating conditions
- All TASC & ARC consoles carry CE certification
- Non-volatile memory retains settings and data when disconnected from power
- Variable Rate-ready consoles can be connected to Mid-Tech printers or Mid-Tech Data Link for variable rate applications
- Upgradable firmware



ARC 6000 Console



TASC 6100 Console

| Model | Number of Products | Liquid/Dry | Variable Rate Ready | Injection Ready |
|-----------|----------------------------|------------|---------------------|-----------------|
| ARC 6000 | 1 | Both | No | No |
| TASC 6100 | 1 | Both | Yes | No |
| TASC 6200 | 2 | Both | Yes | No |
| TASC 6300 | Carrier + 3 Injection | Liquid | Yes | Yes |
| TASC 6500 | Dual-product + 3 Injection | Both | Yes | Yes |
| TASC 6600 | Carrier + 6 Injection | Liquid | Yes | Yes |

ARC & TASC Consoles, Switchboxes, and Options

| Part No. | Description | Part No. | Description |
|--|--|-----------|---|
| 90-02154* | ARC 6000 Console Kit, liquid & dry programming | 405-0037 | Switchbox Solenoid Valves, Master w/ 3 Boom Sections |
| 90-02160 | TASC 6000 Console Kit | 402-0007 | Solenoid Harness for 405-0037, 25' |
| 90-02157 | TASC 6300 Console Kit | 602-0013 | 3 Boom Solenoid Harness Extension Cable for 405-0037, 12' |
| 90-02158 | TASC 6600 Console Kit | 405-0035 | Switchbox Solenoid Valves, Master w/ 5 Boom Sections |
| 90-02155 | TASC 6500 Console Kit | 402-0011 | Solenoid Harness for 405-0035, 18' |
| 90-02159 | TASC 6200 Console Kit | 402-0004 | 3 Boom Solenoid Harness Extension Cable for 405-0035, 18' |
| 90-02156* | TASC 6100 Console Kit | 405-0054 | Switchbox Solenoid Valves, Master w/ 9 Boom Sections |
| Kit includes 18' console power cable, mounting knobs, mounting bracket, manual. Requires power lead. | | 404-0037 | Solenoid Harness for 405-0054, 25' |
| 401-0010* | Console Power Cable, 18' | 405-0053* | Switchbox-Motorized Ball Valves, Master w/ 3 Boom Sections |
| 401-0101 | Console Power Cable Extension, 20' | 405-0034 | Switchbox-Motorized Ball Valves, Master w/ 5 Boom Sections |
| 45-05013 | Console Power Cable, 35' | 405-0065 | Switchbox-Motorized Ball Valves, Master w/ 9 Boom Sections |
| 815-0009 | ARC/TASC Console Mounting Bracket | 402-0023 | Motorized Valve Switchbox Cable to Spraying System 344AE, 15' |
| 815-0010 | Console Mounting Knob | 402-0024 | Motorized Valve Switchbox Cable to Spraying System 344AEC, 15' |
| Data Link Available. Call NCI for details. | | 402-0071 | Motorized Valve Switchbox Cable to Wiring KZ#60, #60B Valves, 15' |
| 405-0036* | 5 Boom Section Boom Status Cable | 402-0039 | Motorized Valve Switchbox Cable, Valve Extension Cable, 3' |
| 405-0038 | 9 Boom Section Boom Status Cable | 402-0024 | Motorized Valve Switchbox Cable, Valve Extension Cable, 15' |
| | | 402-0028* | Motorized Valve Switchbox Cable, Valve Extension Cable, 25' |

* NCI Stocks

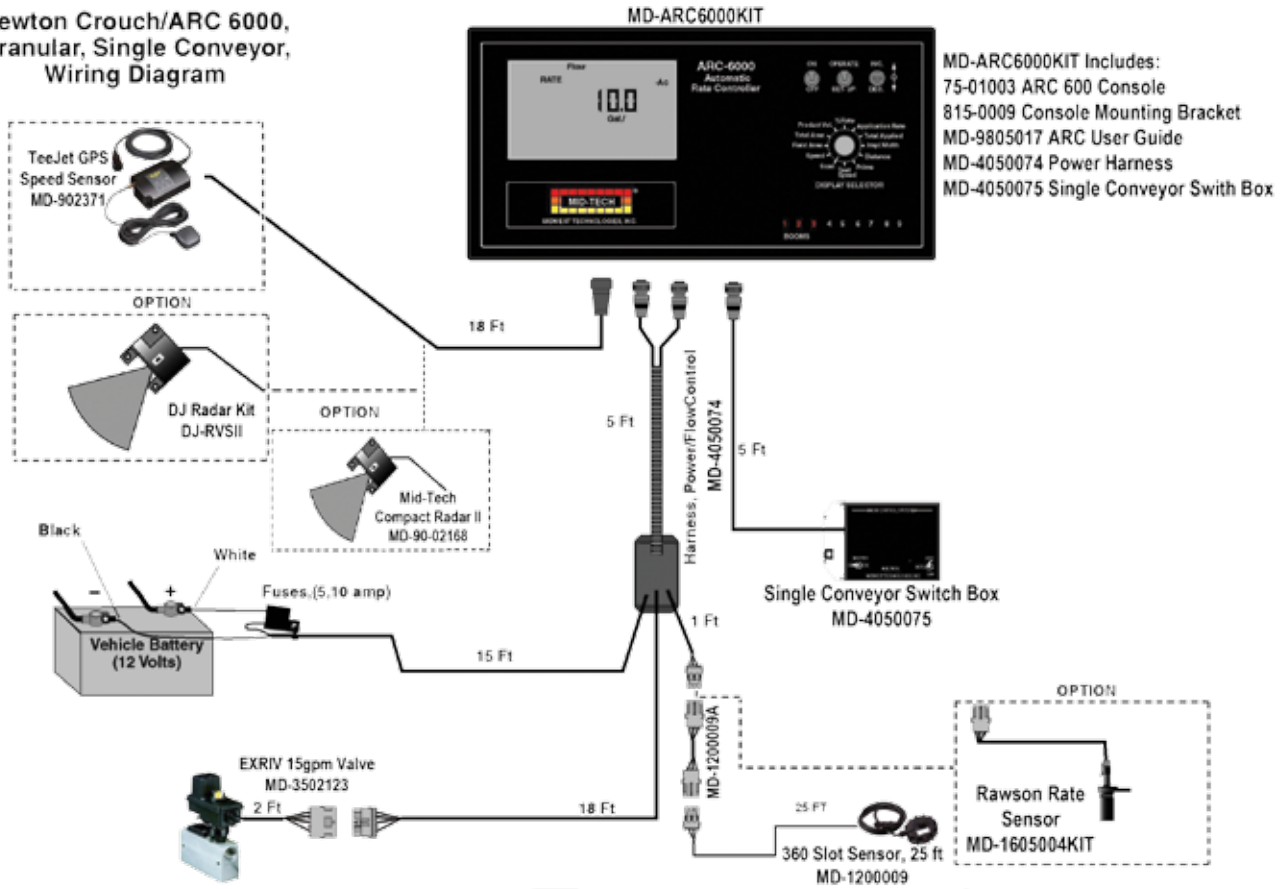


GRANULAR CONTROLLER, SINGLE CONVEYOR

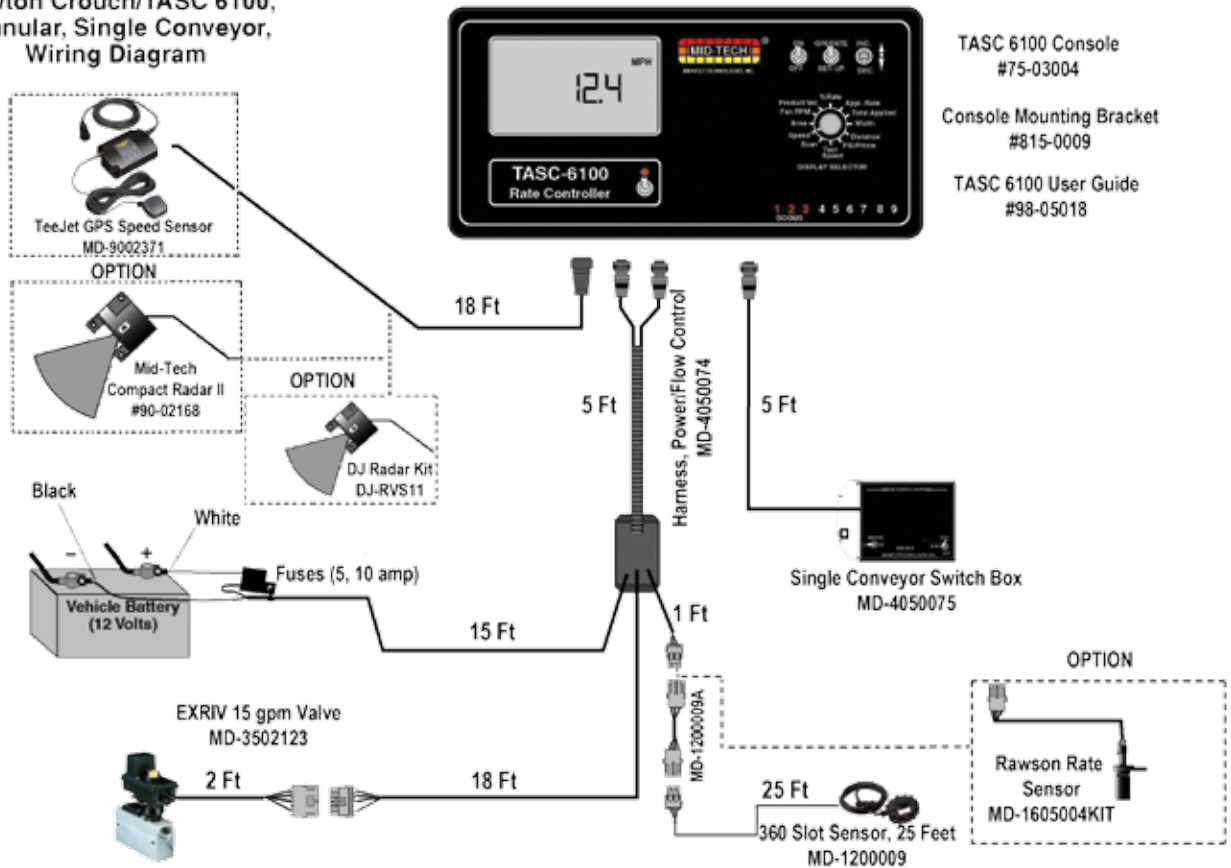


PRECISION & GUIDANCE

**Newton Crouch/ARC 6000,
Granular, Single Conveyor,
Wiring Diagram**

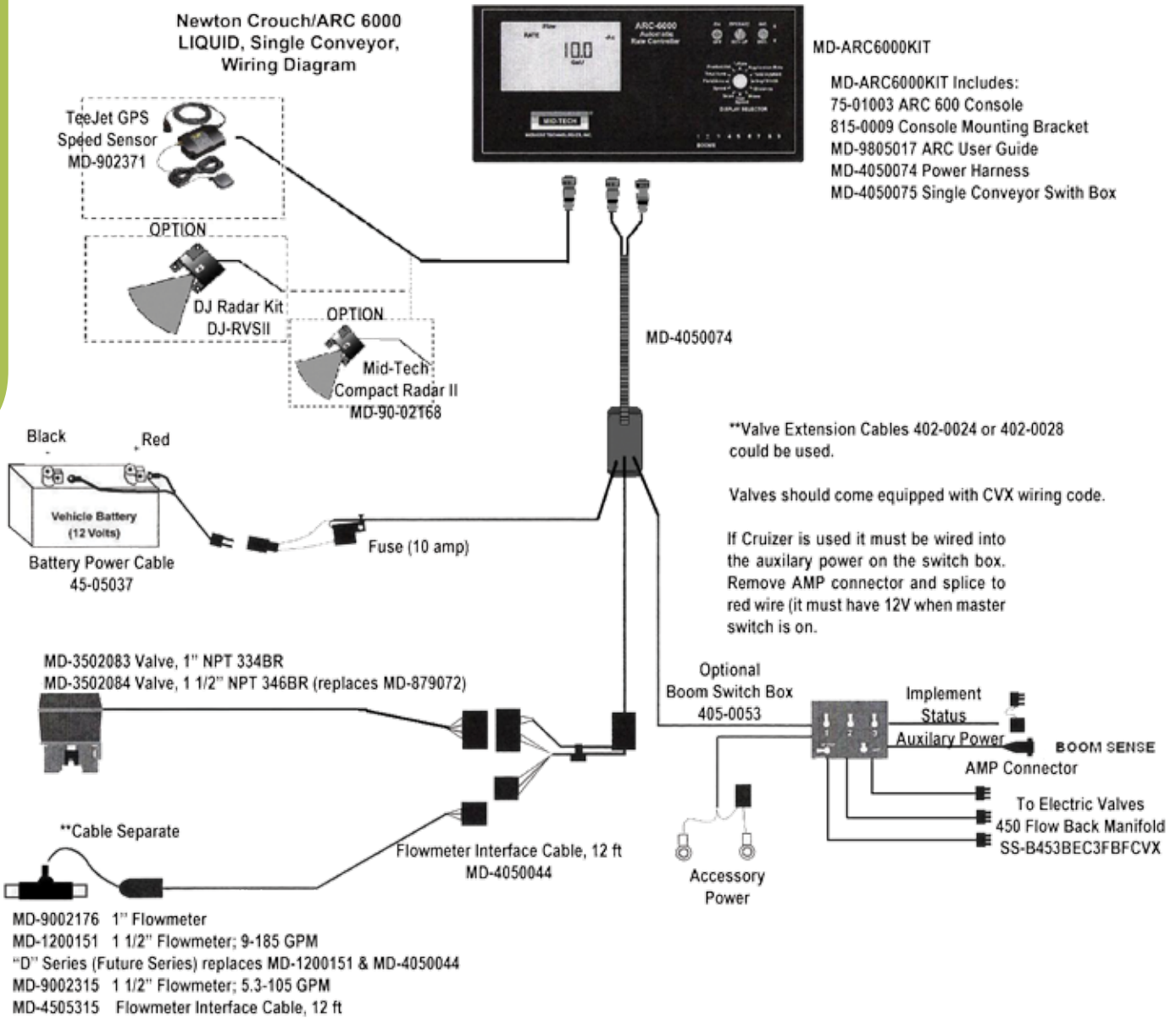


**Newton Crouch/TASC 6100,
Granular, Single Conveyor,
Wiring Diagram**



LIQUID CONTROLLER

Newton Crouch/ARC 6000
LIQUID, Single Conveyor,
Wiring Diagram

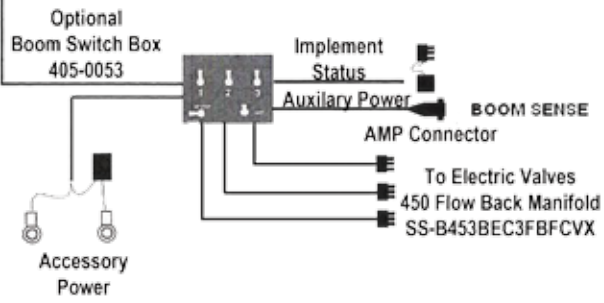


- MD-ARC6000KIT**
- MD-ARC6000KIT Includes:
 75-01003 ARC 600 Console
 815-0009 Console Mounting Bracket
 MD-9805017 ARC User Guide
 MD-4050074 Power Harness
 MD-4050075 Single Conveyor Switch Box

**Valve Extension Cables 402-0024 or 402-0028 could be used.

Valves should come equipped with CVX wiring code.

If Cruiser is used it must be wired into the auxiliary power on the switch box. Remove AMP connector and splice to red wire (it must have 12V when master switch is on).



- MD-9002176 1" Flowmeter
 MD-1200151 1 1/2" Flowmeter; 9-185 GPM
 "D" Series (Future Series) replaces MD-1200151 & MD-4050044
 MD-9002315 1 1/2" Flowmeter; 5.3-105 GPM
 MD-4505315 Flowmeter Interface Cable, 12 ft



| Part No. | Description |
|----------|--|
| 35-02083 | Valve, 1" NPT 344BR Poly Ball, Nylon Body, 3 Sec |
| 35-02084 | Valve, 1 1/2" NPT 346BR Poly Ball, Poly Body, 3 Sec replaces valve with Part No. 879-0072 |
| 90-02176 | Kit, 1" 801 Flow Meter w/ 1" Straight Hose Barb, 45-05315 adapter cable (Cable in for Mid-Tech; remove for TeeJet) |
| 120-0151 | 1 1/2" Std Flow Meter, 1 1/2" Hose Barb, 9-185 gpm; *Requires one of two cables listed below |
| 405-0044 | *Cable, Flow Meter Interface, 12 ft |
| 405-0056 | *Cable, Flow Meter Interface, 24 ft |
| 90-02315 | Kit, 26 mm Flow Meter - 0.5m Cable, Deutsch Connector w/ 1 1/2" Hose Barb (MidTech w/ 45-05315 Cable) |
| 90-02315 | Kit, 26 mm Flow Meter - 0.5m Cable, Deutsch Connector w/ 1 1/2" Hose Barb (TeeJet) |

Flow Meters for TeeJet & Mid-Tech

A range of flow meters are available to match your application. Flow rates from 0.8 gpm to 400 gpm in a range of styles. If you do not see the flow meter you need listed, please call our NCI Parts Department and we will gladly assist you.



744 Series Manual Sprayer Control Kits

- Manual spray controller in a compact package
- Lighted pressure gauge for night use
- Heavy duty switches with LED indicators
- Available in kit forms using solenoids or ball type control valves.
- Kits contain special wiring harness to directly connect to 3-section ball valve manifold

Call NCI with the following information and we will help you order the correct control valve for your needs:

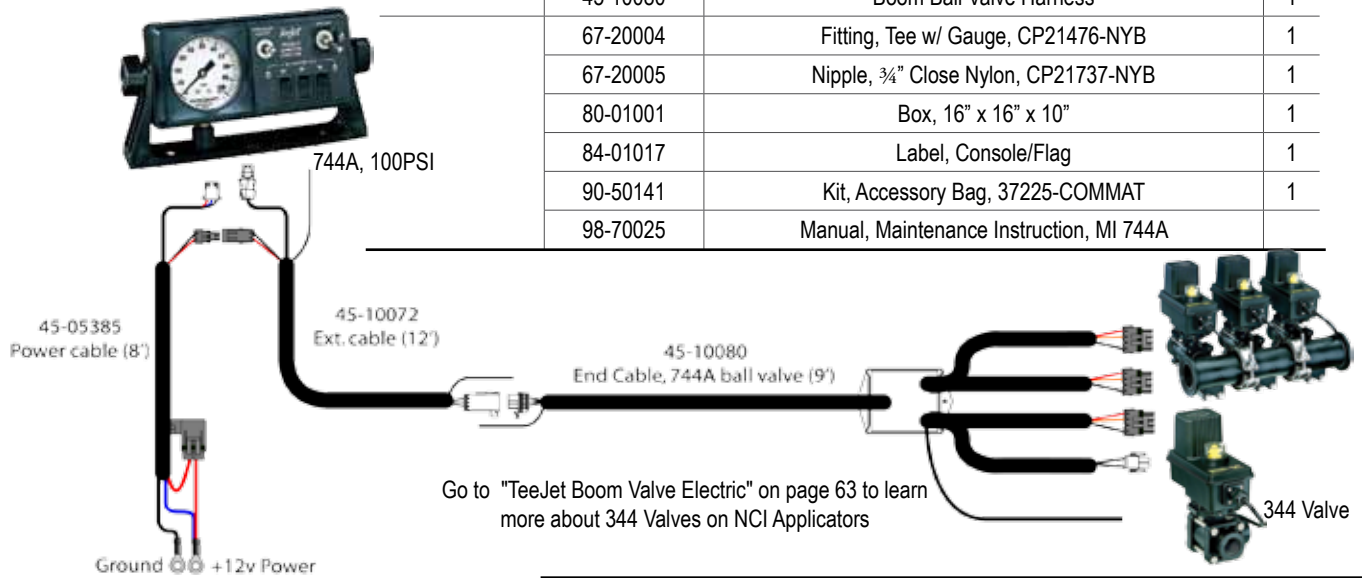
- GPM: _____
- Number of Ball Valve Needed: _____
- Pressure Want to Run: _____

744A Manual Sprayer Control

Includes:

- Higher flow capacity regulating valve
- Ball valve harness that mates to shut-off ball valve manifolds
- 100 PSI Gauge

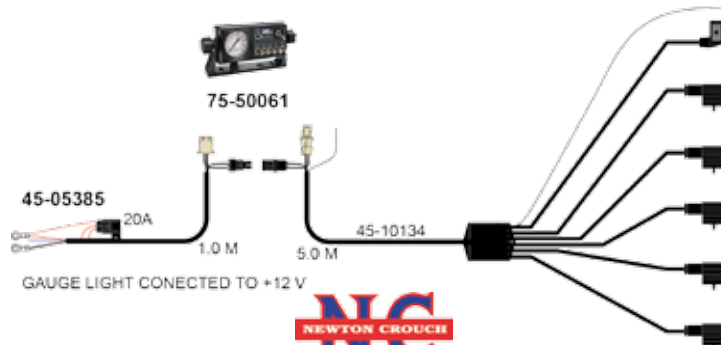
| Kit Part Number | Part Number | Description | Qty |
|-----------------|-------------|--|-----|
| 90-02580 | 75-50033 | 744A 2 Switch Control, 100 PSI | 1 |
| | 35-02087 | 344BRL Valve, 3/4" Ball Linear, Reg w/ 1" Fittings, 27 GPM, 300PSI | 1 |
| | 45-05385 | Cable, Power Fused | 1 |
| | 45-10072 | Boom Valve Harness, 12 ft | 1 |
| | 45-10080 | Boom Ball Valve Harness | 1 |
| | 67-20004 | Fitting, Tee w/ Gauge, CP21476-NYB | 1 |
| | 67-20005 | Nipple, 3/4" Close Nylon, CP21737-NYB | 1 |
| | 80-01001 | Box, 16" x 16" x 10" | 1 |
| | 84-01017 | Label, Console/Flag | 1 |
| | 90-50141 | Kit, Accessory Bag, 37225-COMMAT | 1 |
| | 98-70025 | Manual, Maintenance Instruction, MI 744A | |



744E

- 100 PSI gauge and choice of 3 or 5 section switches.
- Convert hitched sprayers and small-size trailer sprayers from manual valves to electric ball valves
- Metal switches & DIN connections
- To separate cab and sprayer: (leaving controller in cab and wiring on the unit). Three areas must be extended: 1.) boom cable 2.) power cable 3) pressure gauge tube.
- Compatible with 430 Manifold, including Regulating Valve, 3-Way Ball Valves, Pressure Relief Valve and Strainer
- LED indication of active boom sections

| | 744E 3 Switch | 744E 5 Switch | 744E Boom Valve Harness | | Power Cable |
|------------------------------------|------------------------------|----------------------|------------------------------------|----------------------------------|-------------|
| 744E Kit Part No. | 75-50060 100 PSI | 75-050061 100 PSI | 3 Section 45-10133 | 5 Section 45-10134 | 45-05385 |
| 90-50254 | x | | x | | x |
| 90-50255 | | x | | x | x |
| Cable Extenders | | | | | |
| 45-05160 | Power Cable Extension, 10 ft | | | | |
| 45-05161 | Power Cable Extension, 20 ft | | | | |
| 45-05162 | Power Cable Extension, 30 ft | | | | |
| 3-Section 744-E, 8' or 15' lengths | | | 5-Section 744-E, 8' or 15' lengths | | |
| 45-20079 | Cable Extension, 15 ft | | 45-20104 | Cable Extension, 8 ft, 5 Switch | |
| 45-20091 | Cable Extension, 8 ft | | 45-20106 | Cable Extension, 15 ft, 5 Switch | |



TeeJet DirectoValve[®] 2-Way Electrically Operated Solenoid Valves

AA144P-, AA144A-, AA145H-, DirectoValve Control Valves

- Stainless steel wetted parts provide additional corrosion resistance.
- Direct acting; large internal flow chamber without pilot hole reduces chance of clogging.



AA144P



AA144P-3
(Three Unit)

- Operate on 12 VDC system.
- Maximum pressure of 100 PSI.
- Encapsulated solenoid coil can be changed without removing valve from system.
- EPDM diaphragms and seat washers, Viton® optional.

AA144P DirectoValve Control Valves

- 10 GPM (37.9 l/min) flow with only 5 PSI pressure drop.
- 2.5 amp current draw.
- Polypropylene body for chemical resistance.
- Fabric reinforced Viton diaphragms and seat washers.
- No stroke adjustment required.

- Continuous flow through bypass connection, with flow to spray line controlled by valve “on-off” action.

- Corrosion resistant, 430SS solenoid grade armature and armature stop.
- Encapsulated coil and magnetic circuit.

How to order:

To order, specify AA144P- then “1”, “2” or “3” to indicate number of units.
Example: AA144P-3

| Model Number | Inlet Size | Outlet Size | Current Draw |
|--------------|------------|-------------|--------------|
| AA144P-* | 3/4" | 1/2" | 2.5 amp |



AA144A-1



AA144A-3
(Three Unit)

AA144A Valve for Pressures up to 100 PSI

- 10 GPM flow with only 5 PSI pressure drop.
- Can be ganged with other 144A DirectoValve control valves.
- 2.5 amp current draw.
- Polypropylene body for chemical resistance.
- Fabric reinforced diaphragms.
- Also available as 2- or 3-unit assembly.

How to order:

To order, specify AA144A- then “1”, “2” or “3” to indicate number of units.
Example: AA144A-3

| Model Number | Inlet Size | Outlet Size | Current Draw |
|--------------|------------|-------------|--------------|
| AA144A-* | 3/4" | 1/2" | 2.5 amp |



AA145H

AA145H Control Valves

- For pressures to 100 PSI; 15 GPM flow with 5 PSI pressure drop.
- Can be ganged with other 145H DirectoValve control valves.
- 2.9 amp current draw.
- Fiberglass reinforced Nylon body.

How to order:

Specify part number.
Example: AA145H-1

| Model Number | Inlet Size | Outlet Size | Current Draw |
|--------------|------------|-------------|--------------|
| AA145H-1 | 1" | 1" | 2.9 amp |



AA244C

Butterfly Valve AA(B)244C-3/4 Remote Control Electric Regulating Valve

- Specifically designed to provide remote pressure control in agricultural applications using the DirectoValve AA144A or AA145 solenoid shutoff valves.
- Unrestricted flow when wide open- Flow Rate: 28 GPM at 5 PSI drop, 40 GPM at 10 PSI pressure drop.
- Bypass flow rate: 2 GPM @ 10 PSI
- Max operating of 100 PSI.

- Operates in 12VDC system and may be controlled by double pole throw spring centered switch.
- 3/4" NPT or BSPT connections.
- Easy installation - flows either direction.

How to order:

Specify model number.
Example: AA(B)244C-3/4
(B) = BSPT



430 Series Manifold Features:

- ¼" turn ball valve design for positive shutoff.
- 0.6 second shutoff time fully open to fully closed.
- Less than 0.5 amp steady state current draw at 12 VDC.
- Motor assembly features built-in mini-DIN electrical connector and is IP67 rated.
- Motor available in EC (single pole, single throw) or E (double pole, double throw) configurations for use with a variety of controls.
- All metal gear train with stainless steel ball and stem provide excellent wear life.
- Large Quick Connect inlet; connectors *page 108*
- Maximum pressure ratings of 215 PSI.
- Electrical connectors *page 109* for options.
- 2-way/3-way: flow rate is 11.7 GPM at a 5 PSI pressure drop, 16.5 GPM at a 10 PSI drop
- Manifold: flow rate is 9.2 GPM at a 5 PSI pressure drop, 13.7 GPM at a 10 PSI pressure drop
- Wetted parts are polypropylene, stainless steel, Viton and PTFE.
- Integral mounting brackets allow for easy installation.

Go to page "TeeJet Boom Valve Electric" on page 63 to see 433 Valve Configurations on NCI Equipment

430 Series 2-Way Manifold

- Reliability of a ball valve in a compact design.
- Simple on/off control; many configurations.

2 Way

430 Series 3-Way Manifold

- 3-way shut off manifold features a 3-way, metered bypass ball valve design.
- Used with positive displacement pumps, allows a constant system pressure to be maintained regardless of the valve being in the on or off position.
- User configure able bypass settings with markings on dial for quick and easy adjustment.

3 Way

430 Series Flow Back Manifold

- Unique ball design that relieves trapped pressure in the boom. This provides instant shutoff at nozzles and eliminates application problems resulting from nozzles continuing to spray after the boom section has been switched off. Flow back technology is the perfect complement to automatic boom section control and growers can often realize significant chemical savings.
- Liquid from flow back line must be returned, unrestricted to top of tank.

Flow Back

Sample Valve Part Number:

433EC-3FBF75-D

| MODEL SPECIFICATION | |
|---------------------|-------------|
| PART CODE | DESCRIPTION |
| 43 | MANIFOLD |

| MOTOR SPECIFICATIONS | | |
|----------------------|--------|----------------------------------|
| PART CODE | SWITCH | DESCRIPTION |
| E | DPDT | 22 RPM, 0.7 SECOND SHUTOFF VALVE |
| EC | SPST | |

| MOTOR CABLES | |
|--------------|--------------------------------------|
| PART CODE | DESCRIPTION |
| D | POSITIVELY SWITCHED w/ DIN CONNECTOR |
| DN | NEGATIVELY SWITCHED w/ DIN CONNECTOR |

| MANIFOLD SIZES | |
|----------------|--------------------|
| PART CODE | DESCRIPTION |
| 1 | 1 - VALVE MANIFOLD |
| 3 | 3 - VALVE MANIFOLD |
| 5 | 5 - VALVE MANIFOLD |
| 7 | 7 - VALVE MANIFOLD |
| 9 | 9 - VALVE MANIFOLD |

| VALVE TYPE | |
|------------|-------------|
| PART CODE | DESCRIPTION |
| 2 | 2-WAY VALVE |
| 3FB | FLOW BACK |
| 3 | 3-WAY VALVE |

| INLET TYPE | |
|------------|---------------------|
| PART CODE | DESCRIPTION |
| BLANK | LARGE QUICK CONNECT |
| F75 | 75 - SERIES FLANGE |

Other manifold sizes available

Mini-DIN Cable Assembly Part Code Example:

58480EC-15-VX

| CABLE WIRE CODE | |
|-----------------|--------------|
| PART CODE | DESCRIPTION |
| E | 2 WIRE CABLE |
| EC | 3 WIRE CABLE |

| WIRING CONNECTORS | |
|-------------------|--|
| PART CODE | DESCRIPTION |
| VX | FIRST NUMBER REFERS TO CONNECTOR CODE. SECOND NUMBER REFERS TO WIRING CODE |

See *page 109* for electrical connectors and codes.

| MODEL SPECIFICATION | |
|---------------------|------------------|
| PART CODE | DESCRIPTION |
| 05 | 0.5 METER (20") |
| 15 | 1.5 METER (60") |
| 30 | 3.0 METER (120") |



TeeJet DirectoValve® 450 Series Manifold: 2-Way Shutoff & Flowback

450 Series Manifold

- E or EC series motors with cable of DIN
- 2-Way or Flow Back versions. Pressure regulating valves can be incorporated.
- Flowback valves allow pressure from the boom lines to be relieved back to the tank when valve is switch off
- 22 RPM, 0.7 second shutoff fully open to close
- Flow rate is 32 GPM with 5 PSI pressure per valve, 45 GPM with 10 PSI pressure drop



2-Way
Rear View



Flow Back

Sample Valve Part Number:

(B)453BEC-2FS-CN15AB

| OUTLET THREADS | |
|----------------|--------------------------------------|
| PART CODE | DESCRIPTION |
| BLANK | ALL THREADS TO BE NPT (IF EQUIPPED) |
| (B) | ALL THREADS TO BE BSPT (IF EQUIPPED) |

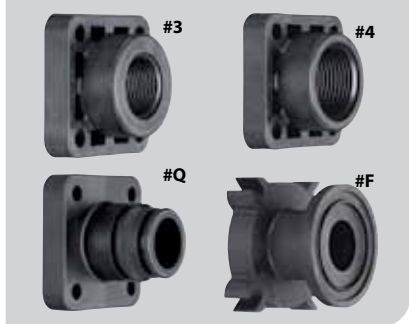
| MODEL SPECIFICATION | |
|---------------------|--------------|
| PART CODE | DESCRIPTION |
| 45 | 450 MANIFOLD |

| MANIFOLD SIZES | |
|----------------|--------------------|
| PART CODE | DESCRIPTION |
| 1 | 1 - VALVE MANIFOLD |
| 2 | 2 - VALVE MANIFOLD |
| 3 | 3 - VALVE MANIFOLD |
| 4 | 4 - VALVE MANIFOLD |
| 5 | 5 - VALVE MANIFOLD |

| MOTOR SPECIFICATIONS | | |
|----------------------|--------|----------------------------------|
| PART CODE | SWITCH | DESCRIPTION |
| E | DPDT | 22 RPM, 0.7 SECOND SHUTOFF VALVE |
| EC | SPST | |

| VALVE TYPES | |
|-------------|---------------------|
| PART CODE | DESCRIPTION |
| 2 | 2-WAY VALVE |
| 2N | 2-WAY VALVE, NARROW |
| 3FB | FLOW BACK |

| END CAPS OR OUTLET FITTINGS | |
|-----------------------------|------------------|
| PART CODE | DESCRIPTION |
| 3 | ¾" PIPE THREAD |
| 4 | 1" PIPE THREAD |
| Q | QUICK CONNECT |
| F | 50 SERIES FLANGE |



| WIRING CONNECTORS | |
|--|--|
| SPECIFIC ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK. | |
| See page 98 for electrical connectors and codes. | |

| MOTOR CABLES | |
|--------------|--|
| PART CODE | DESCRIPTION |
| C | POSITIVELY SWITCHED w/ 0.5-METER CABLE |
| CN | NEGATIVELY SWITCHED w/ 0.5-METER CABLE |
| * C03 | POSITIVELY SWITCHED w/ 0.3-METER CABLE |
| * CN03 | NEGATIVELY SWITCHED w/ 0.3-METER CABLE |
| * C15 | POSITIVELY SWITCHED w/ 1.5-METER CABLE |
| * CN15 | NEGATIVELY SWITCHED w/ 1.5-METER CABLE |
| * C60 | POSITIVELY SWITCHED w/ 6.0-METER CABLE |
| * CN60 | NEGATIVELY SWITCHED w/ 6.0-METER CABLE |
| D | POSITIVELY SWITCHED w/ DIN CONNECTOR |
| DN | NEGATIVELY SWITCHED w/ DIN CONNECTOR |

Items marked with "*" are non-stock items. Please contact NCI for information.
Note: DIN cables must be ordered separately. *page 109*

INLET/OUTLET REQUIRED CONNECTIONS
 THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4:** When ordering ¾" (3) or 1" (4) threaded NPT or BSPT inlet/outlet type valve connections, the inlets and outlets will be completed during the ordering process.
- **F:** When ordering F (flange) type valve connections, the inlet/outlet fittings are ordered separately. Two 50 series clamps and flange fittings are required for 2-way valves and three each for 3-way valves. See *page 108* for flange fitting options.
- **Q:** When ordering QC (Quick Connect) hose barb type valve fittings, the inlet/outlet connections are ordered separately. Two 45529 QC fittings are required for 2-way valves and three each for 3-way valves. See *page 108* for QC options.

Note: Many valve configurations are possible by mixing and matching flange fittings.

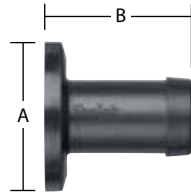
| BALL MATERIAL SPECIFICATIONS | |
|------------------------------|----------------------|
| PART CODE | DESCRIPTION |
| BLANK | POLYPROPYLENE BALL |
| S | STAINLESS STEEL BALL |

| REPAIR KIT | |
|-------------|--|
| AB344AE-KIT | |



Features:

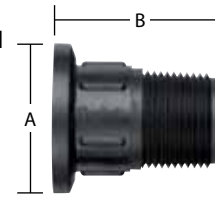
- Polypropylene construction.
- Full port design.
- Viton® O-ring seal available with clamp (not included with flange).



Straight Hose Barb Flanges

| Description | Series | "A" | "B" | Part Number |
|------------------|--------|-----------------|------------------|-------------|
| 3/4" Hose Barb | 50 | 2" (51 mm) | 1 1/16" (43 mm) | CP48150-PP |
| 1" Hose Barb | 50 | 2" (51 mm) | 2" (51 mm) | CP45504-PP |
| 1-1/4" Hose Barb | 50 | 2" (51 mm) | 2" (51 mm) | CP45505-PP |
| 1-1/2" Hose Barb | 50 | 2" (51 mm) | 2" (51 mm) | CP45506-PP |
| 1-1/4" Hose Barb | 75 | 3-1/16" (78 mm) | 1-13/16" (46 mm) | CP48160-PP |
| 1-1/2" Hose Barb | 75 | 3-1/16" (78 mm) | 2-3/16" (56 mm) | CP46067-PP |
| 2" Hose Barb | 75 | 3-1/16" (78 mm) | 2-3/4" (70 mm) | CP48161-PP |

- Maximum pressure rating of 200 PSI for 75 series fittings.
- Maximum pressure rating of 300 PSI for 50 series fittings.



Threaded Flanges (Male)

| Description | Series | "A" | "B" | Part Number |
|-------------------------|--------|-----------------|-----------------|-------------|
| 3/4" Male Pipe Thread | 50 | 2" (51 mm) | 2" (51 mm) | CP48172-PP |
| 1" Male Pipe Thread | 50 | 2" (51 mm) | 2-3/16" (56 mm) | CP48155-PP |
| 1-1/2" Male Pipe Thread | 50 | 2" (51 mm) | 2-3/4" (70 mm) | CP48156-PP |
| 1-1/4" Male Pipe Thread | 75 | 3-1/16" (78 mm) | 2-1/2" (64 mm) | CP48165-PP |
| 1-1/2" Male Pipe Thread | 75 | 3-1/16" (78 mm) | 2-1/2" (64 mm) | CP48166-PP |
| 2" Male Pipe Thread | 75 | 3-1/16" (78 mm) | 2-9/16" (65 mm) | CP48167-PP |



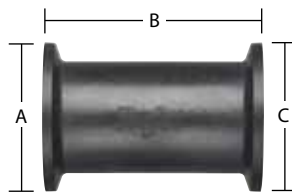
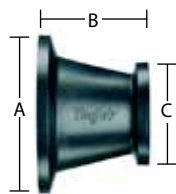
90° Hose Barb Flanges

| Description | Series | "A" | "B" | "C" | Part Number |
|------------------------|--------|-----------------|------------------|-----------------|-------------|
| 90° x 3/4" Hose Barb | 50 | 2" (51 mm) | 1-1/2" (38 mm) | 2" (51 mm) | CP48151-PP |
| 90° x 1" Hose Barb | 50 | 2" (51 mm) | 1-1/2" (38 mm) | 2" (51 mm) | CP48152-PP |
| 90° x 1-1/4" Hose Barb | 50 | 2" (51 mm) | 1-15/16" (49 mm) | 2-9/16" (65 mm) | CP72238-PP |
| 90° x 1-1/2" Hose Barb | 50 | 2" (51 mm) | 1-15/16" (49 mm) | 2-9/16" (65 mm) | CP72239-PP |
| 90° x 1-1/4" Hose Barb | 75 | 3-1/16" (78 mm) | 1-15/16" (49 mm) | 2-9/16" (65 mm) | CP48162-PP |
| 90° x 1-1/2" Hose Barb | 75 | 3-1/16" (78 mm) | 1-15/16" (49 mm) | 2-9/16" (65 mm) | CP48163-PP |
| 90° x 2" Hose Barb | 75 | 3-1/16" (78 mm) | 1-15/16" (49 mm) | 3-5/16" (84 mm) | CP48164-PP |

Gauge Port Flange

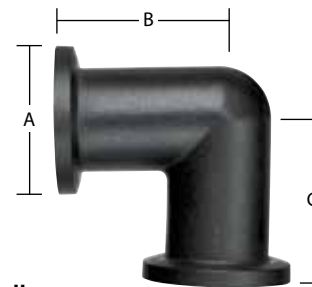
| Description | Series | "A" | "B" | Part Number |
|-------------------|--------|-----------------|--------------|-------------------------------------|
| 1/4" Gauge Port | 50 | 2" (51 mm) | 3/4" (19 mm) | CP45508-1/4-PP CP(P)45508-1/4-PP |
| 3/8" Gauge Port | 50 | 2" (51 mm) | 3/4" (19 mm) | CP45539-3/8-PP CP(P)45539-3/8-PP |
| Blank Inlet Cover | 50 | 2" (51 mm) | 5/16" (8 mm) | CP45507-PP |
| 1/4" Gauge Port | 75 | 3-1/16" (78 mm) | 3/8" (9 mm) | CP46127-1/4-PP |
| 3/8" Gauge Port | 75 | 3-1/16" (78 mm) | 3/8" (9 mm) | CP46127-3/8-PP |
| Blank Inlet Cover | 75 | 3-1/16" (78 mm) | 3/8" (9 mm) | CP46069-PP |

(P)=BSPP



Straight Flange Couplings

| Description | Series | "A" | "B" | "C" | Part Number |
|-------------------|--------|-----------------|-----------------|-----------------|-------------|
| Straight Coupling | 50 | 2" (51 mm) | 2-1/4" (57 mm) | 2" (51 mm) | CP48157-PP |
| Straight Coupling | 75 | 3-1/16" (78 mm) | 4-3/8" (111 mm) | 3-1/16" (78 mm) | CP48169-PP |
| Reducer Coupling | 75/50 | 3-1/16" (78 mm) | 2-3/16" (56 mm) | 2" (51 mm) | CP45207-PP |

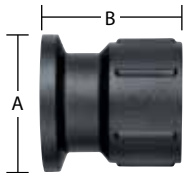


90° Flange Couplings

| Description | Series | "A" | "B" | "C" | Part Number |
|--------------------|--------|-----------------|-----------------|-----------------|-------------|
| 90° Elbow Coupling | 50 | 2" (51 mm) | 2-3/16" (56 mm) | 2-3/16" (56 mm) | CP48158-PP |
| 90° Elbow Coupling | 75 | 3-1/16" (78 mm) | 2-3/16" (56 mm) | 3-1/8" (79 mm) | CP48168-PP |

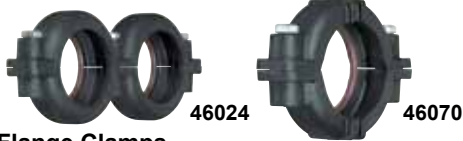


TeeJet DirectoValve® Flange Fittings



Threaded Flanges (Female)

| Description | Series | "A" | "B" | Part Number |
|---------------------------|--------|---------|-----|-------------|
| 1" Female Pipe Thread | 50 | 2" | 2" | CP48154-PP |
| 1-1/4" Female Pipe Thread | 50 | 2" | 2" | CP45512-PP |
| 1-1/2" Female Pipe Thread | 75 | 3-1/16" | 2" | CP46066-PP |



Flange Clamps

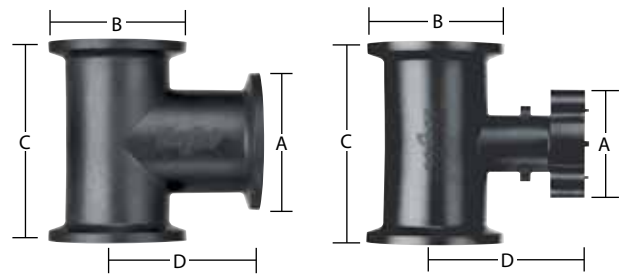
| Part Number | Series | Description |
|------------------|--------|-----------------------------|
| 46070 | 50 | 2-Way Valve |
| 46024 | 50 | 3-Way Valve |
| 55245-50 | 50 | 2-Way Valve Stainless Steel |
| CP7717-2 /222-VI | 50 | Viton® O-ring |
| 55245-75 | 75 | 2-Way Valve Stainless Steel |
| CP7717-2-229-VI | 75 | Viton O-ring |



Note: O-ring included.

48143 Mounting Kit

Mounts to underside of tee and includes one extrusion and four screws. Mounting kit is not included with tees. Must be ordered separately. Also requires 5/16" or 8 mm bolt.



Tee Flanges

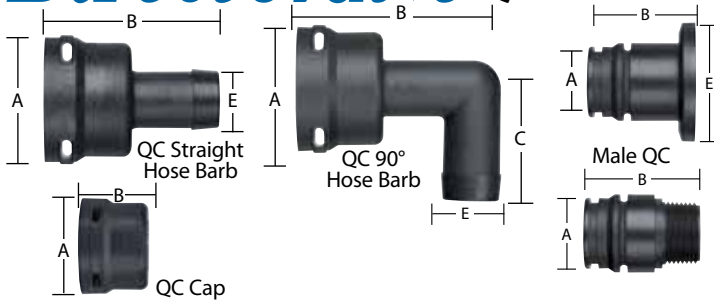
| Description | Series | "A" | "B" | "C" | "D" | Part Number |
|-----------------------|--------|---------|---------|---------|--------|-------------|
| Tee | 50 | 2" | 2" | 4-3/8" | 2-7/8" | CP50193-PP |
| Narrow Tee | | 2" | 2" | 3-3/16" | 2" | CP55242-PP |
| Reducer Tee | 50/75 | 2" | 3-1/16" | 4-3/8" | 2-7/8" | CP46717-PP |
| Tee | 75 | 3-1/16" | 3-1/16" | 4-3/8" | 3-1/8" | CP46716-PP |
| 450 Tee Body | 75 | - | 3-1/16" | 4-3/8" | 3-1/4" | CP45251-PP |
| 450 Tee Body (Narrow) | 75 | - | 3-1/16" | 3-1/8" | 3-1/4" | CP55224-PP |

Note: There are no mounting provisions on the 50 series tee.

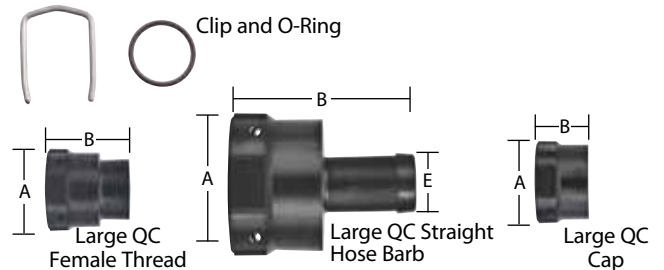
| Description | Part Number |
|---|-------------|
| Tee Mounting Kit (450 or 490 series manifold) | 48143 |



DirectoValve® Quick Connect & Large Quick Connect Fittings



- Quick Connect Fittings rated to 300 PSI
- Large Quick Connect fittings used exclusively for 430 manifold valves; rated at 215 PSI



| Description | Series | "A" | "B" | "C" | "E" | Part Number |
|-------------------------|--------|---------|----------|--------|------|-----------------|
| 1/2" Straight Hose Barb | QC | 1 1/16" | 2 1/4" | | 1/2" | 45529-1/2 |
| 3/4" Straight Hose Barb | | | | | 3/4" | 45529-3/4 |
| 1" Straight Hose Barb | | | | | 1" | 45529-1 |
| 1/2" 90° Hose Barb | QC | 1 1/16" | 2-19/64" | 1-5/8" | 1/2" | 45529-90-1/2 |
| 3/4" 90° Hose Barb | | | | | 3/4" | 45529-90-3/4 |
| 1" 90° Hose Barb | | | | | 1" | 45529-90-1 |
| Quick Connect Cap | QC | 1 1/16" | 1 1/8" | | | 45529-C |
| Quick Connect Plug | | 1 7/16" | 1 5/16" | | | 45529-P |
| 50 Series Flange Male* | QC | 1 3/16" | 1 3/16" | | 2" | CP46029-PP |
| 3/4" Male Pipe Thread* | | | | | 2" | CP45527-NYB |
| 1" Male Pipe Thread* | | | | | 2" | CP45526-NYB |
| 3/4" Hose Barb Male QC | | 1 3/16" | 2 7/16" | | 3/4" | 45529-3/4M |
| 1" Hose Barb Male QC | | 1 3/16" | 2 7/16" | | 1" | 45529-1M |
| Retaining Clip 302SS | QC | | | | | CP37166-302SS |
| O-Ring (Viton®) | QC | | | | | CP7717-3-912-VI |

| Description | Series | "A" | "B" | "E" | Part Number |
|-------------------------------|----------|--------|--------|--------|-----------------|
| 1" Straight Hose Barb | Large QC | 2 1/2" | 3 1/4" | 1 | 58456-1000 |
| 1 1/4" Straight Hose Barb | | | | 1 1/4" | 58456-1250 |
| 1 1/2" Straight Hose Barb | | | | 1 1/2" | 58456-1500 |
| 2" Straight Hose Barb | | | | 2" | 58456-2000 |
| Large QC Cap | Lrg QC | 2 1/2" | 1 5/8" | | 58456-C |
| 1/4" Female Thread Gauge Port | Large QC | 2 1/2" | 2 1/2" | | (B)58456-1/4 |
| 3/4" Female Thread | | | | | (B)58456-3/4 |
| 1" Female Thread | | | | | (B)58456-1 |
| 1 1/4" Female Thread | | | | | (B)58456-1-1/4 |
| 1 1/2" Female Thread | | | | | (B)58456-1-1/2 |
| Retaining Clip 302SS | Lrg QC | | | | CP58439-302SS |
| O-Ring (Viton®) | QC | | | | CP7717-M40X4-VI |

*Note: O-ring and clip not included. Others come standard with O-ring and clip.



Note: TeeJet Technologies recommends the use of sealed connectors to improve reliability and prolong component life.

CHART 1: CONNECTOR CODES

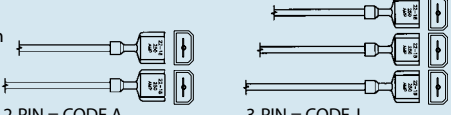
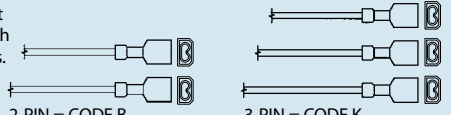



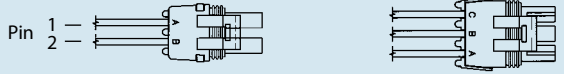
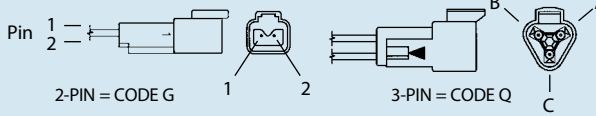
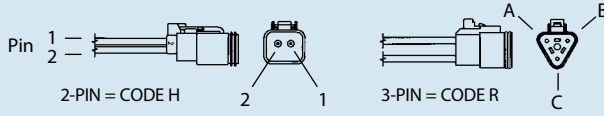
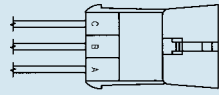
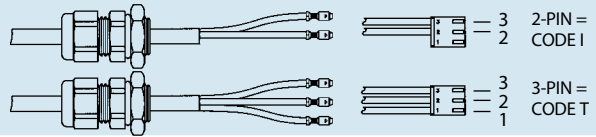
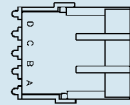
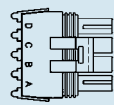
| | | |
|----------------|---|--|
| 2-PIN OR 3-PIN | AMP MALE FASTON CONNECTOR Note: No pin-out code needed with these connectors.  2-PIN = CODE A 3-PIN = CODE J | AMP FEMALE FASTON CONNECTOR Note: No pin-out code needed with these connectors.  2-PIN = CODE B 3-PIN = CODE K |
| | AMP FEMALE MATE-N-LOK[®] CONNECTOR (SEALED)  2-PIN = CODE C 3-PIN = CODE L | AMP MALE MATE-N-LOK[®] CONNECTOR (SEALED)  2-PIN = CODE D 3-PIN = CODE M |
| | PACKARD WEATHER PACK SHROUD CONNECTOR (SEALED)  2-PIN = CODE E 3-PIN = CODE O | PACKARD WEATHER PACK TOWER CONNECTOR (SEALED)  2-PIN = CODE F 3-PIN = CODE P |
| | DEUTSCH DT FEMALE CONNECTOR (SEALED)  2-PIN = CODE G 3-PIN = CODE Q | DEUTSCH DT MALE CONNECTOR (SEALED)  2-PIN = CODE H 3-PIN = CODE R |
| | PACKARD METRIPACK FEMALE CONNECTOR (SEALED)  3-PIN = CODE S | JST VH FEMALE CONNECTOR (SEALED)  2-PIN = CODE I 3-PIN = CODE T |
| | PACKARD WEATHER PACK SHROUD CONNECTOR (SEALED)  4-PIN = CODE U | PACKARD WEATHER PACK TOWER CONNECTOR (SEALED)  4-PIN = CODE V |

CHART 2: PIN-OUT CODES

| CODE LETTER | CONNECTOR POSITION | | | | CODE LETTER | CONNECTOR POSITION | | | |
|-------------|--------------------|--------|--------|--------|-------------|--------------------|--------|--------|--------|
| | A OR 1 | B OR 2 | C OR 3 | D OR 4 | | A OR 1 | B OR 2 | C OR 3 | D OR 4 |
| A | R | W | P | B | M | P | R | W | B |
| B | R | W | B | P | N | P | R | B | W |
| C | R | B | W | P | O | P | W | R | B |
| D | R | B | P | W | P | P | W | B | R |
| E | R | P | W | B | Q | P | B | R | W |
| F | R | P | B | W | R | P | B | W | R |
| G | W | R | B | P | S | B | R | W | P |
| H | W | R | P | B | T | B | R | P | W |
| I | W | P | R | B | U | B | W | R | P |
| J | W | P | B | R | V | B | W | P | R |
| K | W | B | R | P | W | B | P | R | W |
| L | W | B | P | R | X | B | P | W | R |

How to order:

This system is to be used for 344B and 356B ball valves and 430, 440B, 450B, 460B and 490B ball valve manifolds equipped with electrical connectors. Connector and pin-outs are to be specified in valve or manifold part number when ordering.

Note: On 2-pin connectors, only pin-out code C or S is used.

First: Specify code for connector desired (See Chart 1).
 Second: Specify appropriate wire pin-out arrangement (See Chart 2).

Example:
 356BEC-CLB
 Pin-out Code
 Connector Code

Wire Codes:

- R = Red (+12V)
- W = White (Switched)
- P = Plugged
- B = Black (Ground)

