

MOBILE ELECTRICAL CONTROLS AND HYDRAULIC SOLUTIONS

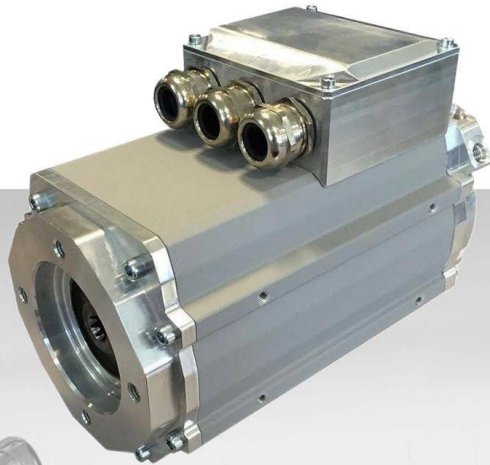
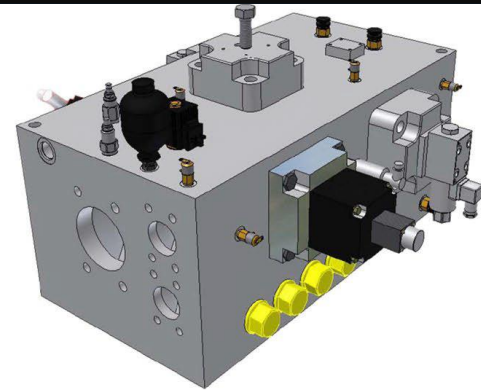


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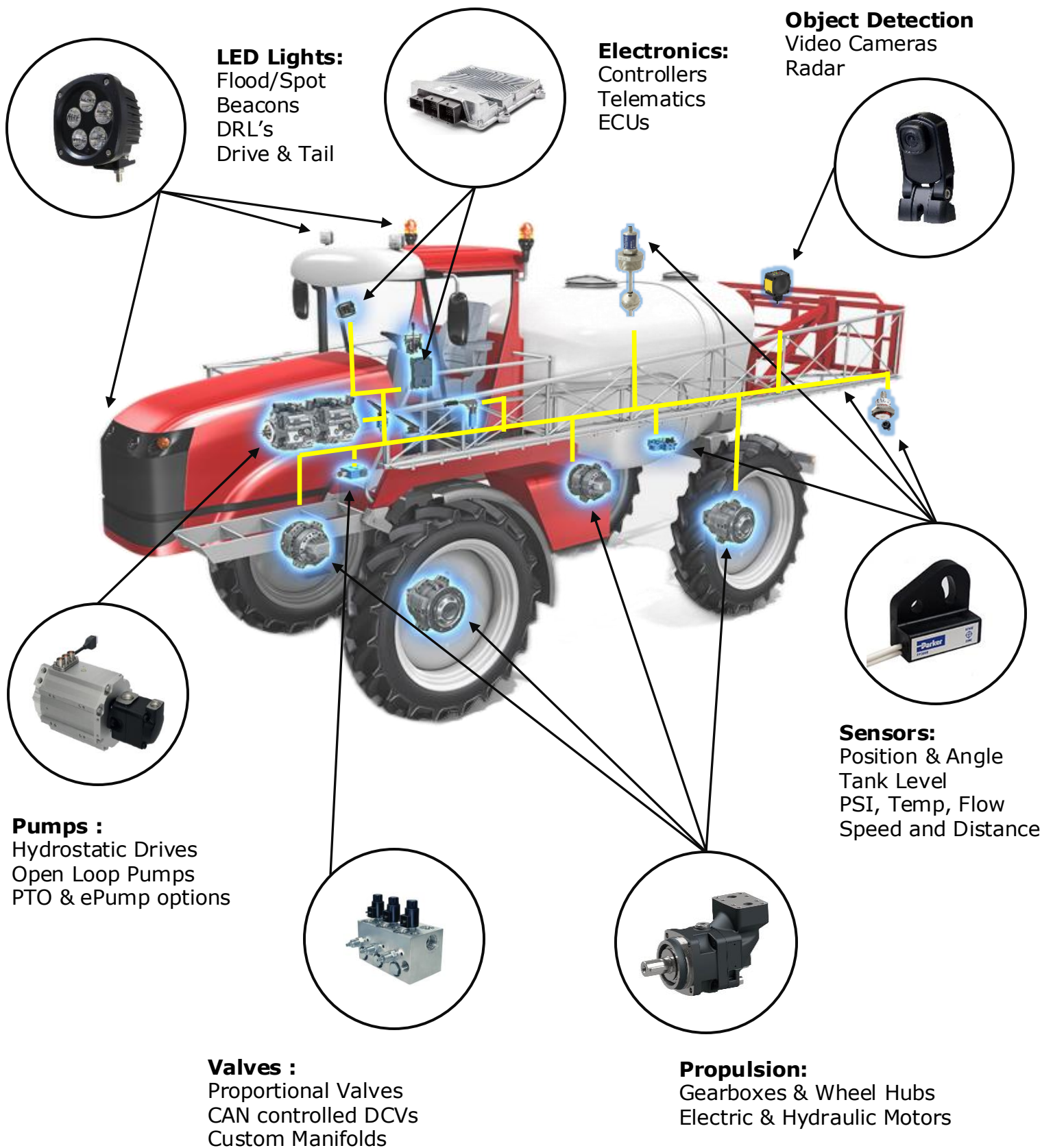
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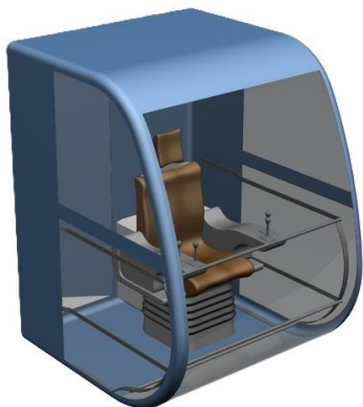


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PRODUCTS FOR MACHINE FUNCTIONS



PRODUCTS FOR INSIDE THE CAB



Displays



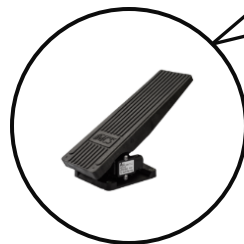
Ignition
Switches &
eStops



Steering
Columns
& Wheels



Multi-
function
Joysticks
&
Levers

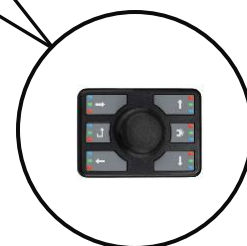


Foot Pedals &
Gear Shifters



Seats

PDM's (aka
Power Distribution
Modules)



Keypads,
Rotary
Wheels &
Rocker-
switches



IQAN Master Controllers ***Parker MC4x Series***

- High Performance multifunction machine controller
- 3 models offer support up to 50 inputs & 36 outputs
- Expandable control via J1939, CANopen & IQAN bus
- Fully potted electronics and sealed to IP69k
- SIL2 variant can be used as a PLd subsystem
- Uses IQANdesign development software
- Diagnostic and service tools: IQANrun, IQANalyze



STW Technic Central Controllers ***ESX.4x and ESX.3x Series***

- Multicore processor for SIL2/ISO 61508 application
- High density programmable I-O, up to 136pcs of configurable inputs and outputs
- Multiple CAN busses & optional COMM ports onboard like EtherNet (10/100), LIN, RS232, and USB
- Robust housing and IP697/69k sealing
- Expandable control via CAN J1939 network
- CoDeSys, C++, Matlab/Simulink programming tools
- Designed for next generation machines and autonomous vehicles



Parker CM3033 Machine Controller

- High Density Programmable I-O for large volume OEM applications
- Onboard LED for quick diagnostics
- 5 CAN Networks
- 50A current capacity
- CoDeSys, C++ and (optional Matlab) programming
- Expandable control via CAN J1939
- IP67/69 sealing



IQAN Expansion Modules ***Parker XC2x and XC4x Series***

- XC2x & XC4x modules use the IQAN proprietary protocol for connecting to the IQAN master controller
- Easy I-O mapping and access to "Adjust Groups" within the IQAN software
- Multiple packages and models offered for best I-O pairing and load matching
- Common I-O assignment for XC4x modules
- Accurate closed loop current control with 1mA resolution



High Power / H-bridge Modules ***Murrelektronik XtremeDB, STW*** ***ioBLOC, Parker CM0504***

- Robust, watertight, fully potted electronics
- 25Amp H-bridge control via J1939
- PWM or Digital type outputs 4-10Amps per channel
- 52 amps continuous for XtremeDB w/ 16pcs output
- Integrated multi-LED for local diagnostics
- CAN J1939, CANopen and Passive wiring options
- Simple set-up, little to no programming required for most devices



Programmable Task Orientated **Controllers & Expansion Modules** ***Hawe CAN-IO14+, Cobo EXT2, Midac***

- Wide variety of models to handle various I-O needs
- Configurable for PWM, Digital, Analog, Freq, etc
- Programmable for stand-alone or expansion unit
- Simple 1pcs automotive type electrical connection
- C++ and IEC61131 type programming available



IQAN Master Display **Parker MD4 Series**

- IQAN Master Controller with Full Color Touch Panel
- 3 model sizes available, 10.1", 7.0", 5.7"
- Onboard programmable I-O and multiple CAN ports
- Capable of multi-channel Ethernet video display
- Built for outdoor use with integral Deutsch and M12 type connections
- GUI development with IQANdesign software
- IP65/IP67



STW inSight Displays **Sx Series**

- 12.3", 7.0", and 4.3" screen size
- Touchscreen and tactile button interfaces available
- Can be mounted in-dash or Standalone
- Multiple CAN and COMM ports (USB, RS232, etc.)
- Onboard I-O
- Video support for EtherNet or PAL/NTSC
- Superseal and M12 type electrical connections
- Programmable with GSE-VISU and openSYDE
- IP65/IP67



Multi Purpose Display Controller **Cobo TeraHE**

- Programmable High End Display
- Available in 12.1", 10.1", 7.0" Full Touch w/ optional tactical buttons
- Supports advanced connectivity, Bluetooth, WiFi, GPS
- On-board I-O with support for EtherNet and PAL/NTSC video camera devices
- Software graphics supported with QT/QML, VT3 with WYSIWYG tool



General Purpose Display Parker PHD Series

- Compact Design Full Color Touch Panel Display
- Designed for CAN J1939 and CANopen interface
- Programmable on-board I-O
- Available in 2.8", 5.0", 7.0" models
- Software GUI development with Crank Storyboard software
- IP69k (front) / IP65 (back)



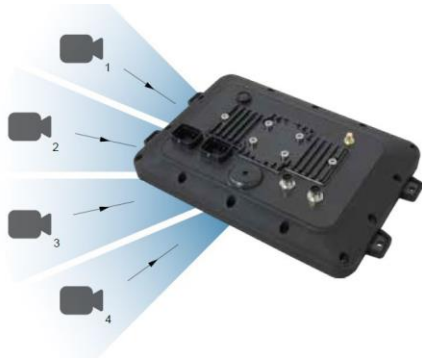
General Purpose Display Cobo CanView4

- 4.3" Touch panel or optional push button interface
- User library for generic tier 4 engines
- CAN Bus communication
- Internal 85dB buzzer
- Optional PAL/NTSC video feedback
- Programmable via C++ or VT3 software
- IP65



Instrument Cluster Cobo GIGA

- Standard models available
- Custom OEM products and features as available
- CAN Bus and LIN interface
- Optional PAL/NTSC video feedback
- On-board programmable



Multi-Media Controller & Recorder ***Cobo Kudah***

- Designed for Off-Highway Machines
- Gateway for streaming and transmission of up to 4 cameras over Ethernet and Wi-Fi
- 32bit Dual Core ARM with 8GB internal flash
- Graphic interface also available on remote tablets/smartphones/PC
- On-board Accelerometer + Gyro IMU sensor
- Programmable I-O and set up with VT3



Video Camera Devices ***Parker SV and others***

- Wide angle 120 degree viewing
- Ethernet type or PAL/NTSC type options
- Low light and IR lens options
- Fully sealed and IP67/IP69k type connections



Mobile Rated EtherNet Switches, **shielded video cables**

- 8x 10/100MBit/s data ports
- 8-30Vdc supply voltage with load dump protection
- Shock and vibration tested
- Fully potted electronics
- EtherNet cables available with various end type
- IP67



Advanced Gateway **STW TCG-4x Series Module**

- Bridge CAN data to 4G, GPS/GNSS, Wi-Fi, Bluetooth, Ethernet
- Real-time data, reports and custom API all available
- Internal 3-axes Accelerometer sensor with 8GB memory
- OTA support for Parker IQAN and Danfoss Plus1
- Fleet Management via Elevate Cloud Portal
- Up to 4 CAN ports, optional EtherNet and WiFi
- SMA connections for external antenna (sold separate)
- Data service subscription required



IIoT Gateway “Voice of the Machine” **Parker PVSG IQAN Module**

- Direct integration with IQANdesign software
- Bridge CAN to 4G LTE, GPS/GNSS, Wi-Fi
- Real-time data, reports as well as API for full client integration
- Alerts available over SMS/Text
- Capable of full IQAN system OTA software updates to Mobile Fleet via Parker Mobile-IOT Cloud Portal
- 2 CAN ports with on-board I-O
- Internal antenna
- Data service subscription required



Basic Gateway **Elevat EZ Module**

- Quick and easy to get started
- Pre-configured dashboard to access the vehicle location, monitoring engine data, and critical fluid levels with Elevat Cloud Portal
- An additional 10pcs of User Defined PGN’s allowed to provided additional machine data
- 5min update cycle time
- CAN data to 4/5G LTE and GNSS
- Internal antenna
- Data service subscription required



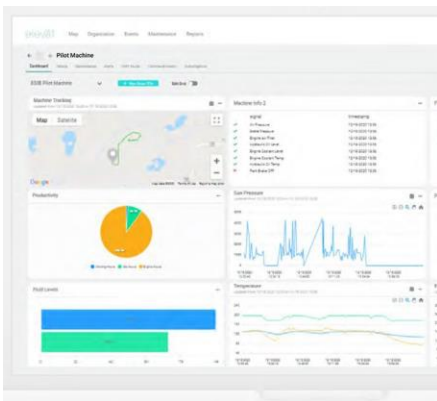
Wireless Access **Parker G12 Module**

- CAN to Bluetooth modem for IQAN systems
- Machine data visible via mobile device app
- Remote access to machine via Parker IQANgo server
- Full remote user access of machine settings and parameters via internet connection.
- No annual service contract



Wireless Access & CAN Repeater **Cobo WiPass Module**

- Remote monitoring system for CAN bus networks by means of Wi-Fi
- Interface with WebApp for Android, iOS and Windows
- Wireless bridge CAN BUS between two networks
- 11 & 29 bit identifier, ISO 11898-2 compliant



Elevat Realtime Cloud Data for **Fleet Management & Telematics**

- Both portals offer some common features
- Multi-Tier Administration
- Custom dash boards for each profile
- Complete visualization of machine data
- Alerts & Notifications
- Interface allows for OTA machine software updates



Smart Fuse Panel Eaton mVEC Series

- CAN J1939 interface to primary vehicle controller
- Relay control via J1939
- Reports status of relay and fuse circuits
- 200Amp max load
- 3 standard relay/fuse combination, (OEM options)
- Chassis voltage available in 12 and 24 Vdc
- Rugged and waterproof for all vehicle types



Fuse Panel Eaton RTMR Series

- Rugged, compact power distribution
- Weather resistant enclosure (IP66)
- Available with various degrees of internal electrical busing
- Delphi Metri-Pack® 280 Series terminals
- Simple rear connection to cavity
- 80A max load



Power Splitters DataPanel PSF/G and PSCF Series

- Power splitter with fuses or circuit breakers
- Fully potted electronics
- Deutsch electrical connections for IP67
- Replaceable standard automotive fuses
- 36Vdc max
- 90A max load



Primary Battery Chargers Curtis

- High Freq, compact and rugged design
- Lead acid (wet / AGM / gel), Lithium support
- Uses wide range of standard AC mains (80-265VAC)
- 12-96Vdc capable, up to 1kW power
- Fully potted and sealed electronics
- Convection cooled
- IP66 rated



DC-DC Converters Eaton, Cobo, Axiomatic, and others

- 12-5, 12-12, 12-24, 24-12, 24-24, 80-24 Vdc type
- 100mA, 3A thru 100Amp models
- New models continue to be released
- IP67 for most products
- Custom units for OEM using 650Vdc
- Designed for rugged mobile applications



Battery Disconnect Switches DataPanel, Cobo, and others

- Master On/Off switch for battery circuit
- High Current, up to 300Amp
- 12 or 24 Vdc solenoid control
- IP67
- Various Wiring Options

Multi-Axis Multi-Function Joysticks ***Parker LC5 & LC6 Series*** ***Otto, Elobau and SureGrip options***



- J1939, CANopen, PWM, USB outputs
- Gating options: single axis, single axis with center detent, dual axis and various omnidirectional selections
- Optional proportional thumb wheels and rotary axis control available
- Side pod(s) for additional controls
- Up to 300 lb. static load at grip ref point
- Custom grips available

Single-Axis Joysticks (friction lock) ***Parker LSL, Otto JHS, Elobau J7***



- Lightweight single axis type with small installation dimensions
- Friction lock and Detents are standard options
- Top or Bottom mount options
- Top side P/B and handle options available
- Various connection types
- IP65 rating above the flange

Fingertip Joysticks ***Parker LST, Elobau JBT, Otto various***



- Hall Effect technology for long life
- Multiple actuation types, detent, friction lock, center position interlock
- Single or Redundant analog signal types
- Soft-touch finger rest for ergonomic operation
- Mounting options available
- IP65/67 for most options



Cluster Style Panel Switches ***Grayhill 3KG2 and Eaton E31 Series***

- Allows connection of up to eight switch modules at one time
- Increased switch life cycle over traditional electromechanical switches
- Customizable graphics for each switch
- Up to four LEDs per switch
- J1939 communication



Raised Multiplex Rocker Switches ***Otto CMK Series and Eaton E33 Series***

- Fully sealed from front and rear with optional panel sealing
- Locking and guarded rocker features available
- Multicolored center indicator
- Sleep mode available
- Front panel removable
- 2 & 3 position with momentary or maintained function
- 9-32Vdc supply



Sealed Rocker Panel Switches ***Cobo, Eaton, Otto-Controls***

- Small switch footprint
- LED circuit protection for overvoltage and reverse voltage conditions
- Optional color actuators, mounting bezels and lenses
- Large section of electrical circuits
- IP67 or better
- Standard panel cutout 1.45 x 0.83 in



Column Shifters, Stalk Switches, FNRs

Cobo, Elobau, Otto-Controls

- J1939, and discrete output model types
- Aluminum, or nylon housings
- Hall effect, contactless technology for high cycle use
- Multiple configurations for gear select, gear speed, windshield wiper, turn signal, retarder, etc
- Wide working temp range for "open type" cabs
- 12/24Vdc control voltages
- IP65 or better in most cases



Foot Pedals

MCS, Otto-Controls, Cobo

- J1939, CANopen and analog output types
- Both Acceleration and Brake functions
- Linear response with Idle Validation signal
- Redundant analog signals or CAN J1939 outputs
- Aluminum or Nylon housing materials
- Hall effect, contactless technology
- Multiple pedal angles and mounting configurations
- Wide working temp range
- IP67/69k



Encoder Wheels, Keypads, Pushbuttons

Otto-Controls and Cobo

- Flush and raised dome button styles
- Threaded body or snap in panel mounting
- Several electrical circuit options as well as connections
- Positive, tactile feedback options
- Withstands shock and vibration
- IP65 or better in most cases
- J1939 control for Encoder Wheel and Keypads
- Programmable LEDs backlight



Kartech **Various Options**

- Quick ship radio systems available
- Multi-function belly pack units
- Integral LCD or graphical displays
- Several standard Handheld controllers
- Radio receivers with discrete analog or CAN J1939
- Rechargeable battery packs
- Flexible and custom OEM layouts



Miratron **Various Options**

- Customizable multifunction belly pack radios
- Transmitters approved for use in hazardous locations and are intrinsically safe.
- Radio receivers with discrete analog or CAN Bus signal communications
- Specialized units such as Fan Controllers and
- Wireless Sensor Transceiver For Analog Sensors
- IP66 housings



Hatox **Wireless CAN Bridge**

- Easy to use bi-directional CAN Transceiver
- 2.4GHz spread spectrum FHSS
- Supports any type of Bosch 2.0b CAN network, including J1939, CANopen, Device Net, Parker ICP, and more, with little or no programming
- 1500ft average working distance
- Frequency hopping to allow for activity of several pairs
- Great for Utility Trucks and Mobile machinery
- IP67 Nylon enclosure with integral M12 connector



Signal Converters & CAN Routers Axiomatic

- EtherNet to CAN J1939 signal converters
- CAN to LIN and Modbus RTU to CAN converters
- Real Time Clock (RTC) Modules
- CAN to single or dual command signals for quick I-O
- Router/Isolator switch for fast bi-directional 6-channel data exchange, fully programmable
- All devices IP67 or better
- Deutsch type electrical connections for most



Wireless Deadman Switches Kartech

- 900MHz long range mesh remote control
- Control up to 5 pieces of equipment with one wireless transmitter.
- Meets SIL2 safety level



Wireless E-Stop Systems Kartech

- 2.4GHz wireless mesh remote control
- Transmitters are available in clip or wall mount
- Receivers offer 2 individual solid state sourcing outputs rated for 5A
- LEDs for battery and radio verification
- 600-4000 ft range
- Meets SIL2 safety level



Steering Columns

BSM & Cobo various options

- Telescoping & Tilting options are standard
- Floor and Dash mounting
- Full integration of accessory functions including key switch, column shifters, horn, gauges, etc
- Connections for most major hydraulic steering orbitals and steer by wire sensors
- OEM options available



Steering Control & Feedback

Parker Lord TFD Series

- The TFD device produces a continuously variable resistive steering torque via PWM control, delivering high-fidelity tactile feedback and maximum control to the operator
- Available in 3 different torque ranges, up to 20Nm
- Hall effect, absolute position type sensing
- Analog and CAN bus interfaces for any application
- Several standard shaft and connector options available
- SIL2 and IP66 for most



Steering Wheels

Cobo various options

- Multiple mounting options
- Several standard hubs, specials on request
- Models with and without steering knob
- Steel reinforced models available
- Optional horn push button kit
- Soft or firm grip materials



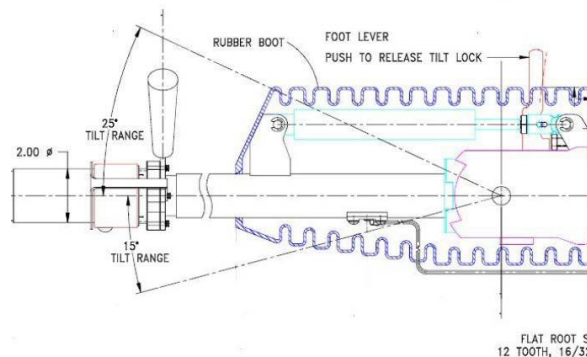
Hydraulic Steering Orbitals ***BSM & Cobo various options***

- Open and Closed center valve types
- Reacting & Non-Reacting type of circuits
- 2.4 to 35+ in³/rev range
- 1800 – 2500psi working pressure for most models
- Metric and SAE ports are standard items
- Electric controls to change displacement for comfort or agility at lower vehicle speeds
- OEM options available
- Talk to us about selectable steering modes



Mechanical Steering Columns ***BSM & Cobo various options***

- Standard units for Dash or Floor type mounting
- Optional Tilt and/or Telescoping features available
- Internal electrical wire management for horn circuit
- Several spline options for both orbitals & wheels
- OEM custom options are available





Seats

Cobo various options

- Basic economy models for direct outdoor use
- Cloth & Leather covered options
- Arm rest, reclining chair, and seat belt features
- Various suspension with air or hydraulic actuators
- Operator presence "seat switch" is a standard option
- Specialty OEM custom models available



Armrest

Elobau, Cobo

- State-of-the-art technology & ergonomic design
- Configurable, multi-functional armrest
- Joystick, touch controls, rotary pots, keypads, TPR navigation knob and more elements can be integrated in this compact design
- Plug & Play integration with CAN bus



Back-up Alarms & Horns

Cobo various options

- 12 and 24Vdc models
- Various mounting options
- 90-117dB range
- Reverse polarity protection
- Great for Ag and Construction vehicles
- IP65 protection on most



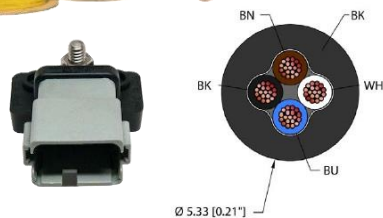
Custom Harnesses

- Tooling for 24-8 awg wire conductors
- Several loom materials such as woven, convoluted tube, or our preferred direct braid on type
- Ultrasonic welding, secondary process for parallel splices for strong, robust connections
- Full continuity and dielectric testing including crimp tension to UL486A
- 5-1000 pcs manufacturing capabilities
- Construction, Ag and Automotive Market focused



Off the shelf Overmolded Cordsets

- Robust overmold cables for quick connections
- PUR, and TPU jackets material for most
- Deutsch, Superseal, M12 connection types
- UV resistant, -40 to +85°C working temps



Bulk Supplies & Accessories

- Bulk cable, CAN-J1939, EtherNet, sensor, shielded
- Common Buss Blocks for ground circuits
- Wire loom products & zip ties



High Voltage Cables & Ground Straps

- Built to order limited standard products
- Various terminal and connection types
- Braided ground strap
- High power phase cables for PMAC motors
- Tooled for 35-95mm² cable, PowerLok and HVA type
- Custom OEM options



Light Bars & Beacons

Cobo, Tiger Lights various types

- Standard lengths available from 6" to 50"
- Dual and Single row LED
- Beacon available in Amber, Blue, Red, Green
- Beacon can be flashing, rotating, or steady
- 12/24Vdc operating voltage
- Deutsch electrical connection



Rear & Corner Marker Lights

Cobo various types

- 12 and 24 Vdc models
- Designed and built for On/Off Highway
- Several standard configurations
- Turn, Brake or multifunction
- OEM options available



Head and Work Lights

Cobo, Tiger Lights various types

- Headlamps are Halogen or LED type
- Load Dump Protected
- Fully sealed IP67 enclosure
- Spot and Flood light type
- Many standard sizes and lumens
- Various electrical connection available
- 9-32Vdc input in most cases

Pressure Transmitters & Switches

Parker, STW, Nason, Anfield, Noshok



- Designed for mobile applications
- Able to withstand heavy vibrations and temps
- Pressure ranges from vacuum to 10k psi
- Ratiometric (0.5 to 4.5Vdc) output, as well as other options including CANopen and J1939
- Temperature compensated with EMI protection
- Viton O-rings for SAE ports (most cases)
- Many electrical and process connection options

Level Detection

Banner, Anfield, MTS, Omega/Dwyer



- Continuous or Single/Dual type detection
- Non-contact or float type technology
- Analog or J1939 output signal
- Reed, Ultrasonic, Optical, Radar, Magnetostrictive sensor technology for use in multiple applications
- IP68 and IP69K
- Several process and electrical connections
- Various body materials for all types of applications

Temperature Transducers & Switches

Parker, STW, Nason, Anfield, Noshok



- -40°F to 572°F media measurement range
- Analog, CAN J1939, and discrete outputs
- Various process connection threads
- Integral or pigtail electrical connections
- Brass or Stainless body construction for most

Oil Condition Monitoring

Parker and others



- Various process connections available
- 40°F to 140°F working range
- Options for various fluid types
- On-board LEDs for quick view diagnostics
- CANopen, J1939, Analog outputs



Angle, Tilt, & Accelerometer **Parker, Turck, Kuebler, others**

- J1939, CANopen, and Analog signals
- MEMS technology with high level of EMI immunity
- Accelerometers measure up to 1.5G and measure angular position as well
- Redundant signal options
- IP68 and IP69K



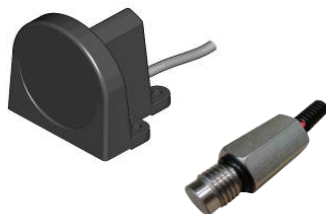
Position Linear, End-stop **Parker, Turck, Kuebler, Joral, MTS**

- Non-contact and contact proximity type
- H/D string encoders with integral inclinometer
- Magnet-strip and Radar technology for robust, external continuous measurement
- Various output types, digital, analog, CAN J1939, etc
- Ferrous and magnetic sensing technology
- IP67 rated or better



Rotary **Parker, Turck, Kuebler, Joral, MCS**

- Contact and non-contact technology
- Shaft, hollow shaft, lever arm, and bearingless
- Incremental Absolute single/multi-turn type
- Analog, A/B/Z freq, EtherNet, and J1939 outputs
- 5-32Vdc input ranges
- IP67 or better in most case



Speed Detection **Parker, Poclairn, others**

- TGSS uses Doppler radar to detect ground speed
- Threaded speed sensors have variety of mounting options and typically pick up gear teeth to determine speed
- Frequency, pulse and J1939 output options
- Fully sealed and potted for highest protection level
- 5-16Vdc operating voltage in most cases



Global Vehicle Motor **Parker GVM Series**

- Engineered for Traction, Generator, Electro-hydraulic pumps (EHP) and Auxiliary applications
- 3 frame sizes available from 142 to 310mm
- up to 17 to 228kW continuous power
- Standard internal water-cooling jacket
- Multiple standard mounting & shaft options
- 24-800Vdc windings



eDrive Wheel Motor **Reggiana Riduttori**

- High efficiency PMAC motor with H/D planetary hub
- 12-96Vdc type voltage (0.5 to 132kW)
- Gear ratios from 50:1 up to 1800:1
- Robust bearings for high axial and radial loads
- Engineered for wide operating temp
- Several mounting options available



Global Vehicle Inverter **Parker GVI-Gen2 Series**

- Designed to be paired directly with Parker GVM motors
- 3 frame sizes 250, 125, 75 kW power ranges
- HVIL circuit and IEC13849 PLd Safe Torque Off (STO)
- 100-800Vdc input ranges
- Pluggable connections with rugged IP67/69k
- Liquid cooled for 1-10kHz performance



Pump & Traction Motor Drives **Parker, Cobo, Poclairn various models**

- PMAC, BLDC, SEM, and DC motor controllers
- 12 to 144Vdc bus voltages available
- On-board I-O for added machine control
- CANopen, J1939 type interface
- IP65 or greater in most cases
- Air cooled



Heavy Duty Electric Actuators Parker XFC Series

- Class 5 planetary roller screw design
- Multiple stacked angular contact bearings
- Hard chrome plated piston rod
- Traditional hydraulic cylinder mounting
- 6 frame sizes
- Strokes from 50-2000mm with speeds up to 1m/s
- 4,500 to 40,000lbf max force (continuous)
- Motor mount for inline or parallel (parallel shown)



Electric Actuator Linak LA36 Series

- Maintenance-free product
- 4 different voltage 12, 24, 36, 48 Vdc
- CANopen and J1939 interface optional
- Basic DC motor control standard
- Built in end of travel limit sensors
- Optional absolute or relative position feedback sensor
- Manual override and local electrical control options
- IP66 dynamic sealed package (IP69 static)



Slender Cylindrical Electric Actuators Stabilus

- for applications where silence is essential
- Screw pitches from 2 to 30mm
- Two models 560lbs and 1124lbs force capacity
- 12 or 24Vdc motor with thermal protection
- Standard stroke range 2-12", custom lengths available
- Maintenance free
- IP67



Linkage & Throttle Linear Actuators Kartech

- J1939 Control with 12/24Vdc motos
- 90lbf continuous force over 3.0in of travel
- Internal clutch for safety freewheel back to center position when command or supply power is lost
- 0.01" position accuracy with contactless feedback
- Fully encapsulated electronics for extreme protection
- IP67



Electro-Hydraulic Steering ***Poclain/Moteg eServo***

- PMAC water cooled motor technology paired with a quiet series direct coupled pump
- <58dB helical gear pump design
- Motor voltages from 300 to 800Vdc
- 5.2 to 28.5kW Continuous power
- 4.8 to 19.0gpm
- max 3600psi for most models
- Shown with option integrated motor inverter with HVIL and CAN 2.0B and J1939 communication



Electro-Hydraulic ePump ***Parker EHP Series***

- Designed for hybrid electric and all-electric mobile applications
- Low & High DC Voltage offerings (24-800Vdc)
- Gear, Vane and Piston pumps available for direct couple to motor package
- Quite-series gear pumps for low noise applications
- Variable displacement and rpm selection for highly efficient and balanced operation
- Up to 87gpm, max 4500psi performance available



Compact Hydraulic Power Units ***Parker, SPX, Hawe, MFCP Build Center***

- Compact and easy to use hydraulic power unit
- Direction Control & Work Holding Valve(s) options
- Various motor types and voltages to fit all applications
- Internal filtration
- 12 and 24Vdc options are standard
- Great fit for AWP auxiliary functions
- Custom configurations available



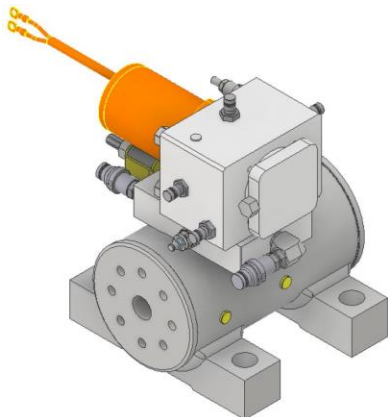
Electro-Hydraulic Actuator ***Parker EHA Series***

- Compact, powerful, reliable linear movement
- 12, 24, and 48Vdc Brush/Brushless motor driven and fully self-contained double acting actuator
- 4 possible gear pump selections
- Standards stroke sizes from 4 to 18 inch
- Max force of 9400lbf
- Various hydraulic circuits available
- Optional manual release
- Non-contact linear position sensor on Gen-2
- CANopen and J1939 compatible on Gen-2
- Suitable for a wide range of mobile applications



Hybrid Actuation System ***Parker HAS Series***

- Easy to use and control for localized high force
- Self-contained package for maintenance free operation
- Various motor options, Brushed/Brushless DC, PMAC,
- Multiple voltage options for all power requirements
- Inverters and drives available with CAN, Ethernet, etc.
- Available position feedback or pressure transducers
- All standard NFPA cylinder mounting options
- Decoupled power unit is also available



High Torque Hydraulic **Rotatory Actuator with** **integral pump**

- DC motor driven ePump package
- Compact helical gear train actuator
- Design to be compact while offering position control
- Stand alone and self-contained package
- Made from several standard products



ePTO

Viatec SmartPTO

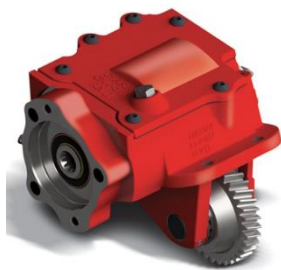
- Eliminate diesel engine idling
- IQAN controlled electronics
- 3500psi and 21gpm max oil flow
- 14.4 kWh Li-NMC battery system
- PMCA 52kW motor
- Various sensors included for system diagnostics
- No-idle A/C support available
- Optional Telematics service package



CANBUS Controlled Hydraulic Valves

Hawe

- CANopen and J1939 interface
- Valve sections controlled via CAN signals
- Command multiple valve sections with precise control
- Ability to limit maximum flow rate via software
- In-built displacement transducer on spool position
- Increase response characteristics
- Reduced spool hysteresis
- Programmable ramps
- Diagnostics for spool position temp, current, and volts



Power Take-Offs

Parker Chelsea

- Industry leading design and technology for the On-Road Truck and Mobile Vocational markets
- Wide product breath for most all common chassis and transmission makes
- Countershaft, split-shaft, and front mount options
- Several standard mounting, 6, 8, and 10-bolt types
- Air, cable, lever or electric shift control options
- OEM stocking plans available



Direct Drive Wheel Motor

Poclain MS (shown) several others

- Compact design with direct drive torque output
- 172 to 15,000 cm³/rev displacement range
- Torque range from 1833 to 56,803 lb-ft
- Power output from 14.5 to 254kW
- Integral brake, 2-speed features
- Other models with integral steering knuckle
- Motors for Slew and Track drive systems also



Planetary Gearboxes

Reggiana Riduttori

- Torque output range from 736 to 3688 lb-ft
- Rotating flange with bolts suitable for wheel or track mounting
- Hub and spindle made of high-strength material
- Suitable for cartridge motors



Open/Closed Loop Motors

Parker Bent-axis F10/F11/F12 Series

- Designed for 7250psi and 7300rpm
- Several displacements available, 30 to 250 cm³/rev
- Multiple mounting options, SAE, ISO, Cartridge
- 88dB noise levels during operation
- Built in speed sensor option



Open/Closed Loop Motors

Linde CMV & CMF Series

- Standalone Proportional Driver
- Several control options including E-H, and E-PSI
- 6- to 215 cm³/rev disp for CMV-series
- Designed for 6500psi and 7200rpm
- Standard mounting options SAE, ISO, Cartridge
- Torque output from 300 to 1084 lb-ft



Closed Loop Pumps **Parker, Linde, Poclain**

- Full range of compact to heavy duty designs
- Axial piston technology with variable displacement
- Displacement ranges from 7 to 280 cm³/rev
- 5000 – 7000psi common operator pressure
- Various controller options for a wide variety of applications and OEM machine integration
 - Mechanical, Hydraulic, and Electrical inputs
 - Torque control and PSI limiting options
- Optional embedded electronics



Variable Displacement Piston Pumps **Parker, Hawe, Oilgear**

- Design delivers higher speeds and efficiency
- Best-in-class power density due to patented inlet
- 7 frames sizes from 28 to 105 cm³/rev
- 4050psi and 3300rpm capable
- Multiple standard controls including EDC



Fixed Displacement Piston Pumps **Parker F1 Series**

- Design built for the truck market
- Light weight aluminum housing
- Several displacements available, 25 to 85 cm³/rev
- 5800psi @ 3050rpm built for either rotation
- Standard mounting options with SAE ports



Fixed Displacement Pumps **Parker, Casappa, MFCP Build Center**

- Variable speed vane and gear pumps especially dedicated to provide an ideal solution for modern servo-controlled machines
- Wide breath of mounting flanges and shafts options
- Single, Double outputs are common, more on request
- 4350psi depending on size
- Vary output flow by adjusting PMAC motor speed
- 72gpm capacity for vane pumps
- Gear pump capacity vary 0.8 to 70 cm³/rev



Mobile Rated Pressure-comp Valves ***Parker, Hawe, MFCP Build Center***

- Load sense DCV pressure compensated design delivers predictable metering of any single or multifunction operation
- Electro-hydraulic control via PWM solenoid
- 4000psi and 6000psi designs both with exclusive psi reducer on A&B ports for added control of function
- Several options for AUX blocks used for added control
- 20-45gpm flow rates available



Custom Manifolds ***Parker, Winner, MFCP Build Center***

- Prototypes of 1-10pcs <2k lbs, ETA 8 weeks
- Production orders 20pcs MOQ, estimated 12 weeks
- Aluminum, Steel and Ductile Iron capabilities
- In-house design, machining, assembly, & testing



Filtration ***Parker, MP Filtri, MFCP Build Center***

- High Pressure and Tank Return type are in stock
- 6000psi rated working pressure
- 15-185gpm flow rates for High Pressure type
- Several media type for filter elements
- 30-125gpm flow for Tank Return models
- Visual and Electronic DPI sensor options for all
- Flange and Threaded port options are standard
- Spin-on type, Strainers & Breathers products too



Cooling & Reservoir Accessories ***Parker, AKG, others***

- Bar and Plate construction with cooling capability of 40-185HP
- AC, DC, and hydraulic fan motor options
- Internal bypass valve is standard, no valve options
- Temperature sensors, motor relay starters products
- SAE, Metric, and BSPP threaded ports are common
- Brazed plate coolers are also available from MFCP

Linear Motion

Parker, Aggressive, others



- Several standard options for seals, wipers, wear rings
- Steel construction built in the USA
- 2-14" bore w/ SAE and Metric interfaces
- Prep'd for end of stroke switches or continuous position feedback sensors upon request
- Single, Dual, and Telescoping rod options
- Designed for > 3000psi with extreme temp options
- Integrated load holding manifolds are common
- Custom requests welcomed

Low Speed High Torque Motors

Parker, MFCP Build Center



- Rapid delivery from local stock and resources
- Light Duty models range in 2.2 to 24 in³/rev
- Heavy Duty models range in 4.9 to 58.5 in³/rev
- Torque range from 3500 to 9300 in-lbs @ < 900 rpm
- MFCP Build Center can provide competitive cross-over support to get your machine back on-line

Rotary Motion

Parker Helac Series



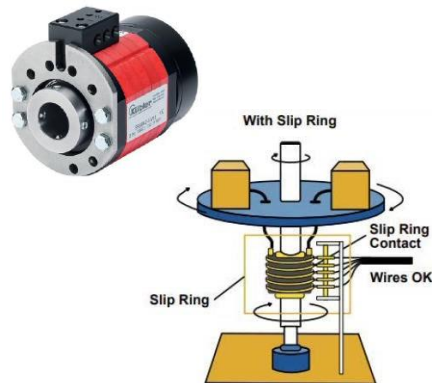
- 5 standard frame sizes with many models for each
- Several mounting options are offered
- High torque, high bearing capacity in compact design
- Torque range from 3k to 215k in-lbs @ 3000psi
- No external brake required to hold position at zero flow, but C/B valve manifolds are available
- Suitable for harsh environments

Rotary Positioning

Cone-Drive/TIMKEN various options

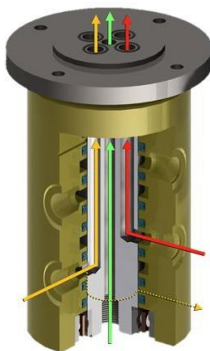


- Low profile and compact design, 7" thru 25" frames
- Sealed drive options available
- Single and Dual worm gear drive options
- Output Drive Torque up to 44k ft-lbs
- Moment load capacity up to 228k ft-lbs
- Prep'd for electric, or hydraulic LSHT motors
- Gear train components are standard items and available for OEM direct design
- Strong shock loads
- 2-year warranty



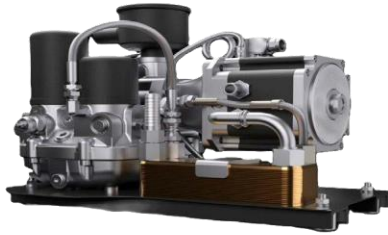
Slip Rings for Electrical Signals *Deublin & Kuebler*

- The device allows for continuous transmission of electrical signals from a stationary source to a rotating part of the machine.
- Up to 6000V AC or DC, including 3-phase
- Current capacity of 250Amp per circuit
- Robust contact technology for reliable signal transfer for CANbus, Encoder, Analog & Digital, type.
- Several standard electrical connections to choose from cable, screw terminal, and customer spec connectors
- Rotational speeds up to 2,500rpm
- Fluid media pass-thru options
- IP64/65 in most case



Rotary Unions for Fluids *Deublin*

- Devices for single or multi-pass circuits
- 3600psi max pressure while rotating
- 28.5gpm flow capacity for standard models
- Operation speeds up to 250rpm
- 175F media temp standard, higher temp optional
- Dual ball bearings for high load capacity
- Steel & Brass construction
- Several options available



PMAC Motor type Air Compressors **Poclain/Moteg eAir**

- High power density & efficiency, for 100% duty cycle
- Variable speed liquid cooled 300-800Vdc PMAC motor
- Models with and without inverters w/ HVIL control
- Flow ranges from 8.6 to 14,2 CFM
- 175 and 215psi pump options
- 2 motors 3.6 and 5.2kW with typical motor speed of 3000rpm
- < 68dB noise level
- Robust IP67
- 125lbs max weight



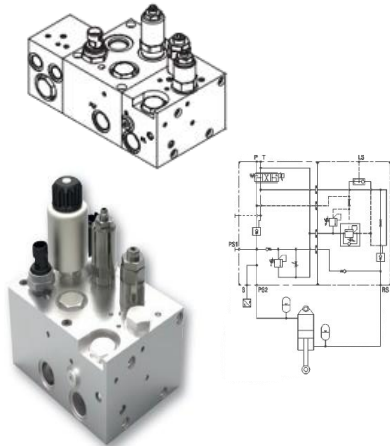
Off-Road DC Motor Air Compressors **Viair Products**

- Designed for continuous duty for many models
- Also used in conjunction with air tanks
- Up to 200psi working pressure,
- 1-2CFM @ 100psi capacity
- Operating temperatures from -40 to +158F
- Basic motor control wiring requirements, often relay type (30Amps) control for On/Off use
- Wide range of accessories items and support products available
- IP67 type construction



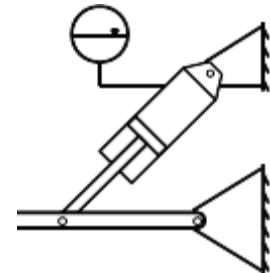
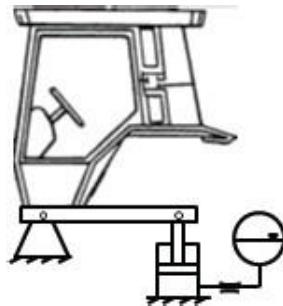
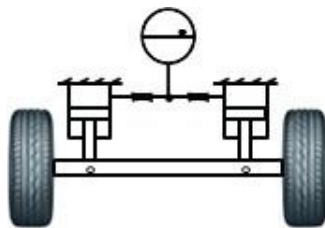
Air Filters, Regulators & DOT Fittings **Parker Hannifin Various Products**

- Possible applications
 - Solid axle with dual shock cylinders
 - All wheel independent suspension
 - Drawbar payloads, Overhung boom sprayers and Cab suspension systems
- Designed to be used to level a vehicle suspension in single or pairs of cylinders.
- Standard manifold designs for self-propelled harvesters with high load ratio conditions between loaded/unloaded machine conditions



Hydro-Pneumatic Controlled Adjustable Suspension System *Argos-Hytos MHPS and SHC Series*

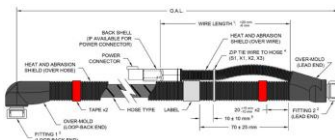
- Possible applications
 - Solid axle with dual shock cylinders
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SCR and DEF Heated Hose Assemblies

Parker and MFCP Build Centers

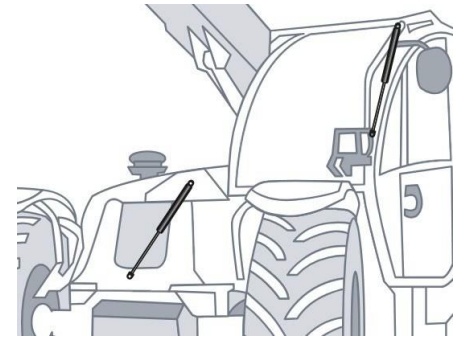
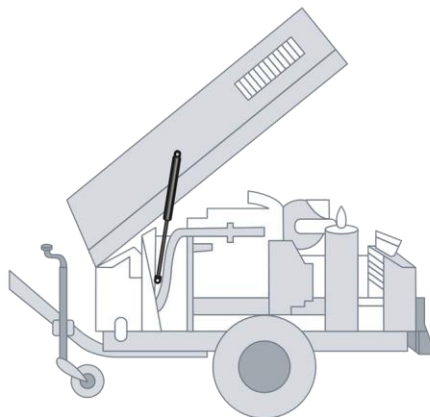
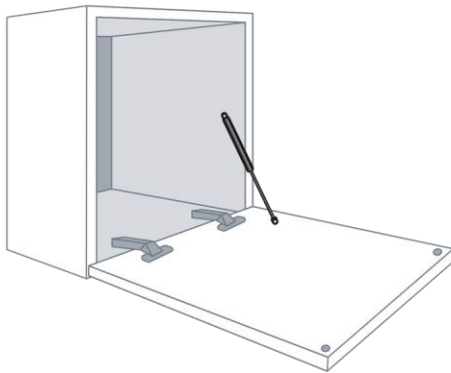
- EPDM and Nylon core tube options
- J2044 stainless steel hose ends
- Steel & Stainless-Steel tube materials
- Helical wrapped electrical heating wire
- Common electrical connector options
- 12/24Vdc systems are most common
- Standard lengths starting at 500mm up to 6m





Gas Springs & Dampers Stabilus

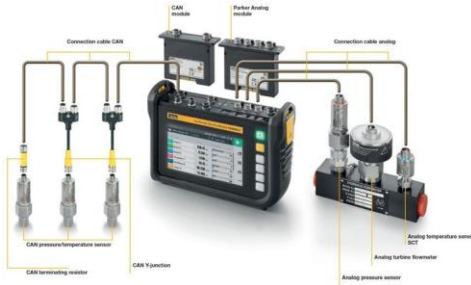
- Used to assist with lifting/lowering or open/close by providing counter force to the load to create weight compensation
- Dynamic and hydraulic damping available
- Large variety of end fittings for efficient assembly
- Compact construction
- Maintenance-free
- Possible applications
 - Storage compartment lids
 - Engine hoods
 - Vehicle covers/panels



Vibration Isolators and Shocks, TechProducts, Ace-Controls, Parker

- Designed for Vibration and Noise control
- Used to increase the life of the device
- Maintenance free
- Reduction of machine vibration also reduces operator fatigue
- Possible applications
 - engine, radiators, transmission mounts
 - cabs, cargo boxes, hoods and foot isolators
 - precision electronics and rack equipment
 - portable cooling skids

Parker **ServiceMaster-CONNECT**



- Capable of monitoring Pressure, Temperature, RPM, Flow, Voltage, Current and Speed via J1939
- On screen data measurements and analysis
- Fast results via plug & play sensors with recognition
- Flexibility through additional Analog and CAN third-party sensors
- Advanced monitoring and analysis of machine via optional CAN J-1939 user port
- Remote monitoring & operation support with additional comm ports, EtherNet, WLAN & USB
- Expandable I-O slots

Parker **ServiceMan-PLUS**



- Automatic sensor recognition eliminates confusing set up
- Compatible with Parker SensoControl sensors
- Large back-lit display MIN/MAX memory & differential measurements
- Increased memory capacity with USB stick
- USB interface to PC for convenient analysis and documentation
- Robust design with IP67 rated protection
- Scan rate of 1 ms

Parker **ServiceJunior various models**



- Measure and display system pressure
- Ranges for hydraulic & pneumatic (-14.5 to 8700psi)
- Min/Max data point memory capable
- Backlit display with adjustable brightness
- Battery life indicator
- Fluid temperature: -4°F to 176°F
- Scanning rate of 10ms
- Various process connections
- Optional wireless remote readings via Bluetooth
- Optional datalogger port, Start/Stop RTC data collection for 24hr sample time capable



Hydraulic Hose, Adapter & Connectors, Clamps

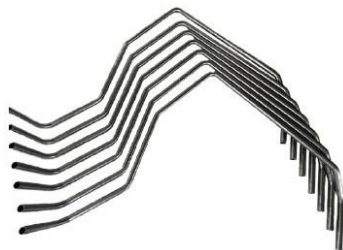
- Full range of hydraulic hoses and supporting products
- High pressure and low-pressure products are in stock
- Thermoplastic and rubber hose materials
- OEM hose kits cleaned & sealed available from MFCP
- Local stock of SAE, Metric, and BSPP adapters
- Stainless, brass, and steel materials for connectors
- Large stock of clamps, Worm-gear and T-bolt, with lots of options for Block-style hose & pipe DIN3015 type up to 16" diameter fixing capabilities



Seals

Parker, Freudenberg, MFCP Build Center

- Rubber O-Rings, Machined Quad-Rings & Multi-Seals
- EMI Shielding Gaskets, Vulcanized O-Rings
- Thermal Transfer Materials, Seals & Gaskets
- OEM solutions for door seals, and hood gaskets
- Custom molded shapes and materials available
- PTFE low friction seals & other High-Performance materials
- Metal Seals & Bonded O-Ring Seals also



MFCP Custom Bent Metal Tube Assemblies for OEM needs

- CNC Benders for accurate tolerances and repeatability
- CMM Laser Measurement Equipment for Verification
- Steel & Stainless-Steel tube materials
- Flaring, Flanging, and Brazing capabilities
- Plating and custom finishes available
- Tooling and stocked materials ranging from 1/4" to 1-1/2" (6mm - 42 mm) OD



Choose Us

MFCP has been solving hydraulic, automation and pneumatic challenges for over 60 years. Many of our Technology Managers, engineers, and executive leaders previously worked for leading motion and flow product manufacturers like Parker Hannifin. We know our products, and we understand your industry. Take advantage of our expertise – we'll be thrilled to help you!

We have been building our reputation as service-focused industrial fluid power, motion, and process control products distributor since 1960. Today, our customers also come to us for hydraulic system engineering, design, and manufacturing; hydraulic component repairs; hydraulic system service and troubleshooting; hydraulic and industrial filtration solutions; remote system condition monitoring and implementation.

We exist to deliver technology and solutions to improve your processes and the safety of operations.

We are a Full Line Parker Hannifin distributor and carry products from every Parker division. We also offer quality parts from brands like STW, OTTO-Controls, Eaton/CooperBussman, Turck, Kuebler, Nason, Hawe, Poclair, Oilgear, and many other best-in-class brands.



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