

IT'S ALL ABOUT CONTROL



Tension Control Products, Services and Solutions

EST. 1947 **montalvo**
Better Web Control®

75
years
ANNIVERSARY
2022





IT'S ABOUT QUALITY

Montalvo is a name that has become synonymous with higher quality, higher performing tension control products, backed by the industry's most knowledgeable and experienced team of sales, engineering, manufacturing, and customer service. We are Here for You!

Quality. Experience. Trust. Since 1947.

The name is everything.

It's about more than just precise tension and pinpoint control.
It's about the knowledge, and expertise that goes into every product.
It's about the quality, service life, and performance of each component.

It's about removing any doubt in your process.

It's about giving you the ability to truly "Set It and Forget It".

It's about knowing you have Montalvo; so you know it works, and it
does its job, better than any other.

It's as simple as that.

Find out how much more *you* can do with Montalvo.

NEW MULTI-ZONE CONTROL

Z=ZEUS

MULTI-ZONE TENSION CONTROLLER

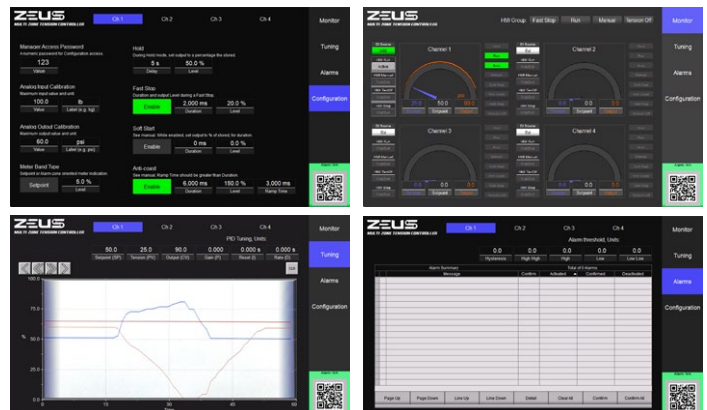


Features

- ✓ Soft Start / Anti-Coast
- ✓ Web Break Detection
- ✓ Splice Control
- ✓ Progressive Gain
- ✓ Set it & Forget It Technology
- ✓ Recipe Storage
- ✓ Ethernet Connectivity
- ✓ Inertia Compensation
- ✓ Compatible with Pneumatic or Electric Brakes and Clutches
- ✓ Compatible with Drives
- ✓ * Open Loop Torque Sensing & Indication
- ✓ * Range Expansion


* Montalvo Exclusives

Building upon the successes of our Z4, S4, and U4 series of controllers, we are proud to introduce the new ZEUS Multi-zone Web Tension Controller™. Configurable for up to 8 tension control zones, the ZEUS touchscreen puts all this control in one place, right at your fingertips. Whether your process needs include Open Loop w/Tension Indication, Closed Loop w/Load Cells, Closed Loop w/Dancer, Unwind Zones, Rewind Zones, NIP (Process) Zones, in any combination, the ZEUS can handle it all.



Set it and Forget it is easy with a variety of data visualizations to help you adjust your settings.

All The Control In One Package

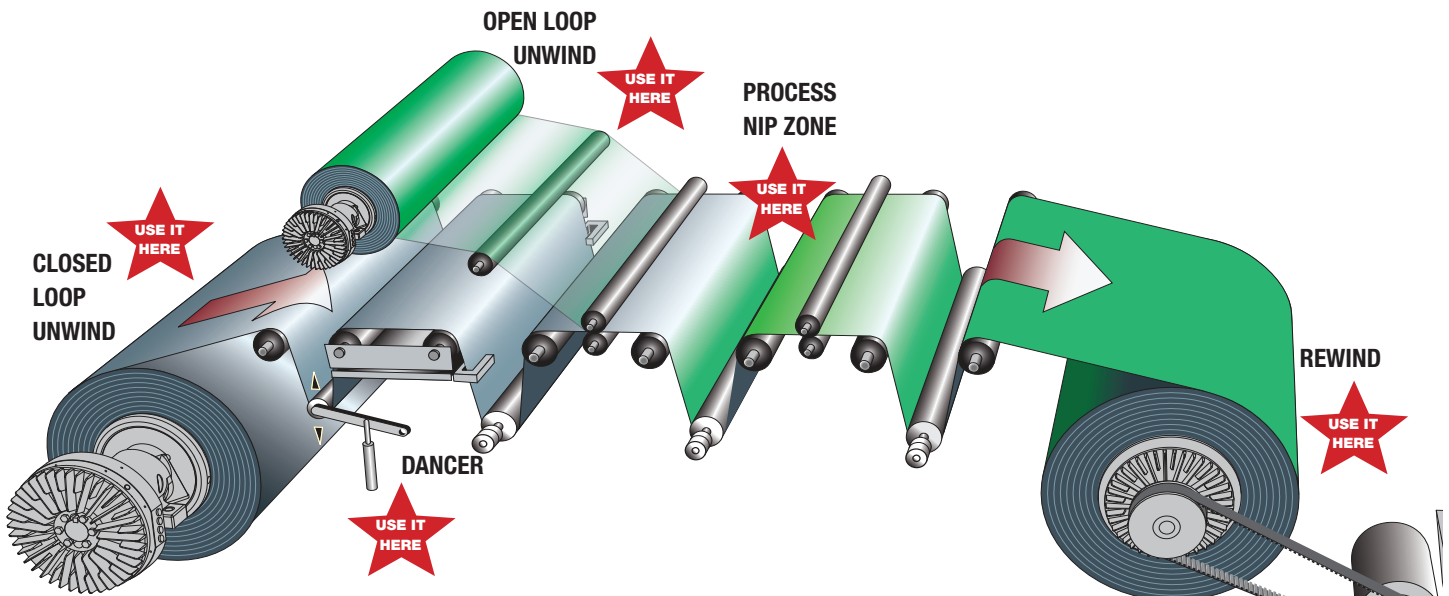



Fully Configurable Communication Options
Zeus is available with a variety of communication options depending on the specific requirements of your process.

Ethernet/IP - ODVA Certified Ethernet/IP communication standard on all Zeus models.

Interface Features

- Greater Visibility** - Crystal clear 10" high def touchscreen makes visibility and operation much more user friendly.
- Built in Tension Indication** - Zeus shows your tension with a highly visible, easy to read tension indication display on multiple axis.
- Process Trends** - Zeus shows your production runs so you can see process trends.
- Selectable Units & Scaling**
- Installation Versatility** - Zeus can install in any location.
- Easy Process Management and Adjustment**



PUTTING YOU IN CONTROL



Montalvo's System 4 features the broadest range of web tension control technology available today! Precise load cell control, dynamic dancer control, or non-contact ultrasonic control. Open loop, closed loop or any combination. We have it for you.

Z4 Operator Interface

Offers remote control and detailed feedback of all Z4 controlled functions.



OVERVIEW

Model	Z4	S4	U4
Zone Control	Unwind/NIP/Rewind	Unwind/Rewind	Unwind/Rewind
Control Type	Closed Loop	Closed Loop	Open loop
Supply Input	100-240AC or 24DC	100-240AC or 24DC	100-240AC or 24DC
Signal Output (selectable)	0-10V / 4-20mA	0-10V / 4-20mA	0-10V / 4-20mA
Load Cell Support	Strain	Strain / Foil	No
Dancer Support	Yes	No	No
Non-Contact Sensor Support	DPS / MDP / US4 / Prox / LS5	No	US4 / TS / Prox / LS5
Drive Support	Yes	Yes	Yes
Brake/Clutch Support	Yes	Yes	Yes
Mounting Options	3	2	2
Remote HMI Interface Option	Yes	No	No
Communication Options	USB for Setup/Ethernet	No	No

Montalvo Tension Controllers

Z4 Unwind/Intermediate-Nip/Rewind Zone Closed Loop Tension Controller

Hybrid digitally controlled analog processing is optimized to produce accurate, repeatable web tension within any tension control zone. Available with an exclusive 7" HD Operator HMI interface and enclosure or remote mounting options.

S4 Unwind/Rewind Zone Closed Loop Tension Controller

One of the easiest controllers in the industry to set up, calibrate, and operate while still offering a full range of features designed to make your process more productive, while allowing you to simply "Set It & Forget It".

U4 Unwind/Rewind Zone Non-Contact Open Loop Tension Controller

Bringing advanced features (typically found only in closed-loop control systems) such as soft start, anti-coast, and taper tension, to open loop tension control. Compatible with a variety of inputs, the U4 ensures accurate tension control from full roll to core in open loop control systems.

Controller Functions Include:

- Soft Start
- Anti Coast
- Splice
- Taper
- Inertia Compensation
- Web Break Detection
- Remote Setpoint
- Remote Tension On/Off
- Progressive Gain
- Process Memory Storage
- Process Trend Storage
- Diameter Alarm
- Trim Adjust
- Variable Wrap Angle Compatible
- Range Expansion Compatible
- Dual Calibration

Submenu	Enter to edit optional functions.
Config Menu	Enter to edit regulator parameters.
Options Menu	Enter to edit roll change parameters.
Regulator Menu	Enter to edit parameters related to the starting process.
Roll Change Menu	Enter to edit parameters related to the stopping process.
Start Menu	Enter to edit parameters related to hold mode menu.
Stop Menu	Enter to edit diameter parameters.
Hold Menu	Enter to edit set-up diameter parameters.
Diameter Menu	Enter to edit taper parameters.
Taper Menu	Enter to edit digital output parameters.
Digital Out Menu	Enter to edit splice parameters.
Splice Menu	Enter to edit range expander parameters.
Range Exp Menu	Enter to edit analog auxiliary 1 input parameter.
Aux1 Input Menu	Enter to edit analog auxiliary 2 input parameter.
Aux2 Input Menu	Enter to edit analog auxiliary 1 output parameter.
Aux1 Output Menu	Enter to edit analog auxiliary 2 output parameter.
Aux2 Output Menu	Enter to edit variable wrap angle parameters.
Wrap Angle Menu	Enter to edit optional communications parameters.
Comm Menu	

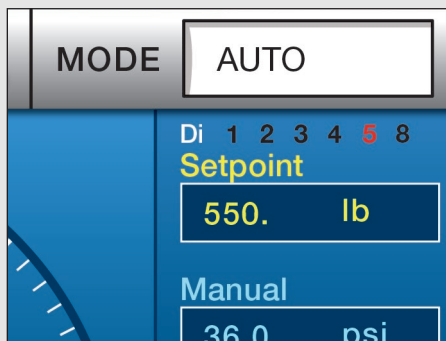
ULTIMATE CONTROL Every Little Change Counts

Montalvo tension controllers maximize process capability and quality. Instantaneous corrections to the slightest changes in tension keep your web in precise control, giving you higher quality end product and less scrap. Do more. Achieve more.



MULTIPLE MOUNTING OPTIONS If the controller fits, buy it!

Montalvo tension controllers provide extreme flexibility. All our controllers offer multiple mounting options. Flush mount in a control panel. Surface mount at an operator's work station. Mount inside a cabinet. Or with the Z4 you can mount the operator interface remotely from the main controller board.



EASY OPERATION Operator approved!

Montalvo tension controllers provide intuitive web management. Once set up, you can run a web from full roll to core (or core to full roll) with little or no operator input. And with parameter storage and recall your high quality process is easily repeatable from run to run and shift to shift.

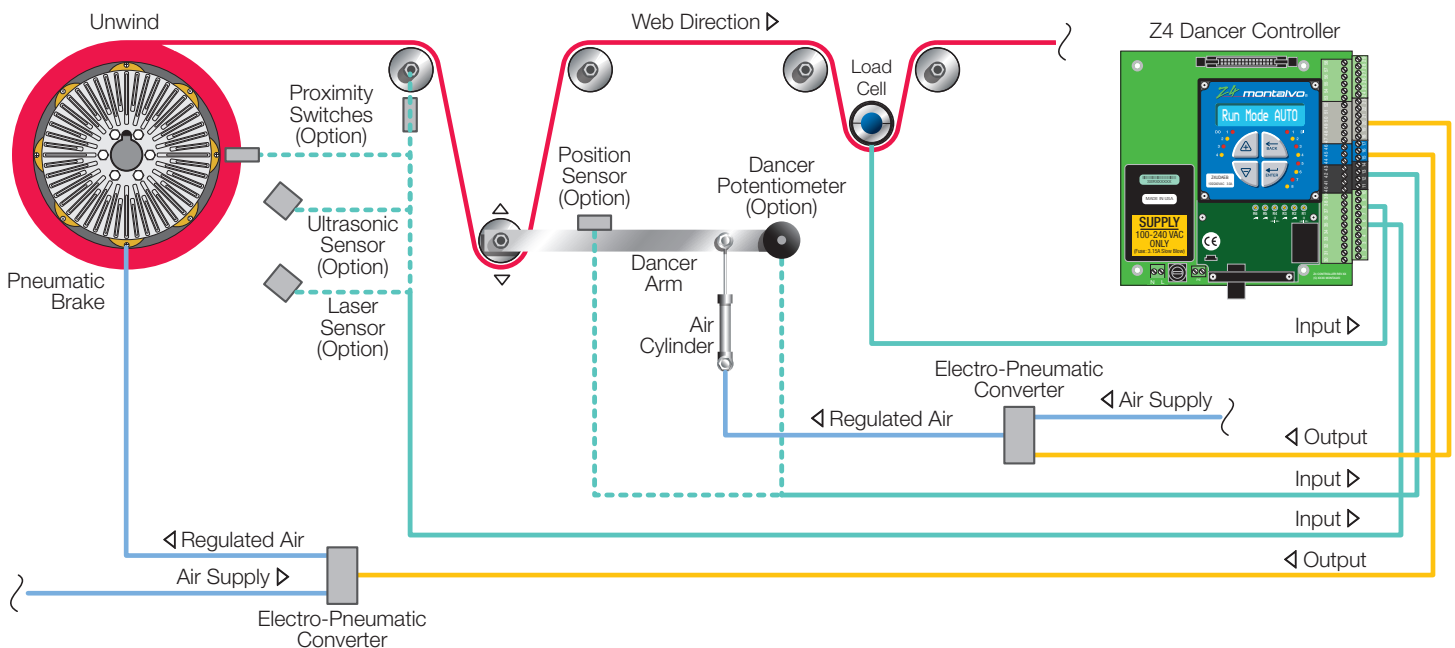


RELIABLE A virtual babysitter

Montalvo tension controllers provide "set it and forget it" peace of mind. A Montalvo Open or Closed Loop controller or system provides all the feedback necessary to confidently and automatically run your web at maximum efficiency and productivity.

Montalvo Dancer Control

Having invented the first ever controller capable of utilizing both dancer and load cell feedback, Montalvo continues to pioneer the automated control capabilities of applications utilizing Dancer Arms. We manufacture two Dancer specific tension controllers (dancer feedback only or dancer and load cells) featuring our unique progressive PID control algorithm which ensures optimum dancer regulation and tension control from full roll to core, every time.



Montalvo TSC™ (Torque Sensing Control)

For the first time ever in an open loop control system, you get a precise, reliable tension reference that operators can use to ensure consistent, high quality production runs. Montalvo has reinvented and accelerated the capabilities of Open Loop Tension Control with patent pending technology that easily integrates into existing machines as well as new machine builds.



The TSC™ Torque Sensing Control System is ideal for applications where...

- ✓ The machine cannot accommodate load cells or retrofits (e.g., space limitations, costs, etc.).
- ✓ The web cannot be contacted after unwind by rollers or requires minimal roller contact (e.g., coating, films, foils, etc.).
- ✓ Multiple unwind stands that each require cost effective, simple control, and a simple web path (e.g., sheeters, laminators).
- ✓ Your existing open-loop system requires improved consistency and quality of production.
- ✓ Multiple web paths or web is traveling directly from unwind roll into the process.
- ✓ A PLC controls torque and minimal modification and effort is desired.

The TSC™ Torque Sensing Control System offers...

- ✓ Easy Installation, Set Up and Operation
- ✓ Reduced Machine Build Cost
- ✓ An Easy Upgrade to Existing Machines
- ✓ Smooth, Precise, Repeatable Tension Control from Full Roll to Core
- ✓ Compact, Space Saving Tension Control in a Simple Package
- ✓ Performance Driven, High Quality Components



Montalvo Range Expansion

When your machine is required to do more; expand its range and not your budget. Montalvo's exclusive Range Expander gives you unparalleled control over your unwind, while at the same time allowing you to run the widest range and tensions for different materials. Power and performance, delicately controlled!

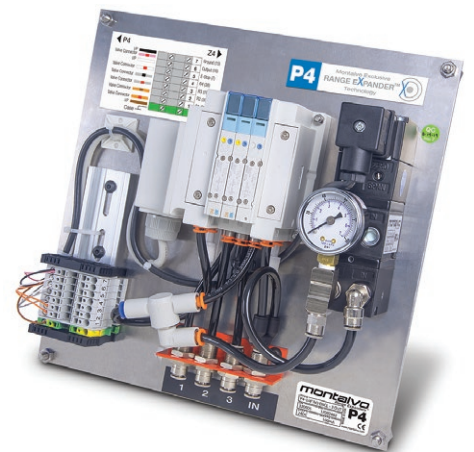


Range Expander
Offers optimal tension control through fully automated brake tension range settings.

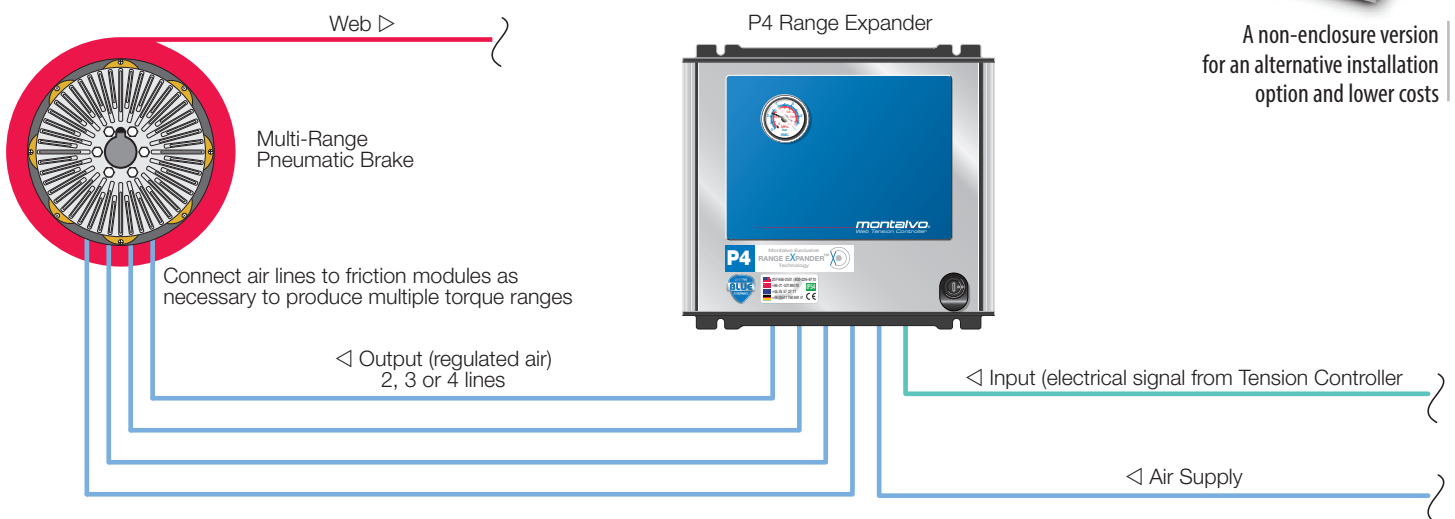


The Montalvo Range Expander allows you to...

- ✓ Run multiple types of materials with various tension requirements on one machine..
- ✓ Gain greater control at lower torque ranges.
- ✓ Run high mass rolls at lighter tensions (e.g., films and foils).
- ✓ Run low torque and tension applications that require high torque to stop (e.g., sheeters).
- ✓ Minimize operator interaction and set-up processes when switching material types.
- ✓ Reduce friction pad wear.



A non-enclosure version for an alternative installation option and lower costs



Montalvo Amplifiers



The quality of your process often comes down to the quality of your load cell signal. When such a small product can have such a big impact, go with the perfect blend of performance, functionality, and quality. Go with Montalvo Amplifiers!

A4 Digital Amplifier
Amplifies load cell / sensor signals to indicate web tension or other measurable characteristics.



OVERVIEW

Series	A4	M3200	M3200 LTR	M3224	M3300	M3324
Load Cell Gauge Type	Semi-Conductor Strain or Foil	Semi-Conductor Strain	Semi-Conductor Strain	Semi-Conductor Strain	Foil	Foil
Supply Voltage	24 VDC	115/230 VAC	115/230 VAC	24 VDC	115/230 VAC	24 VDC
PC Functionality	Programming Trends Filtering	N/A	N/A	N/A	N/A	NA
Alarm Output	No	Yes	Yes	Yes	Yes	Yes
Left/Total/Right Selectable	Yes	No	Yes	No	No	No

Montalvo Tension Indicators

Knowledge is power. Always know the exact tension of your material with a Montalvo Tension Indicator. Incorporating a Montalvo Amplifier with a digital or analog tension meter in one convenient package gives you greater knowledge of your process to ensure you are always running at maximum quality.

i4-A Digital Tension Indicator

Using the A4 Digital Amplifier, the i4-A Indicator is available in single zone or multi-zone analog or digital display models.



i4-M Analog Tension Indicator

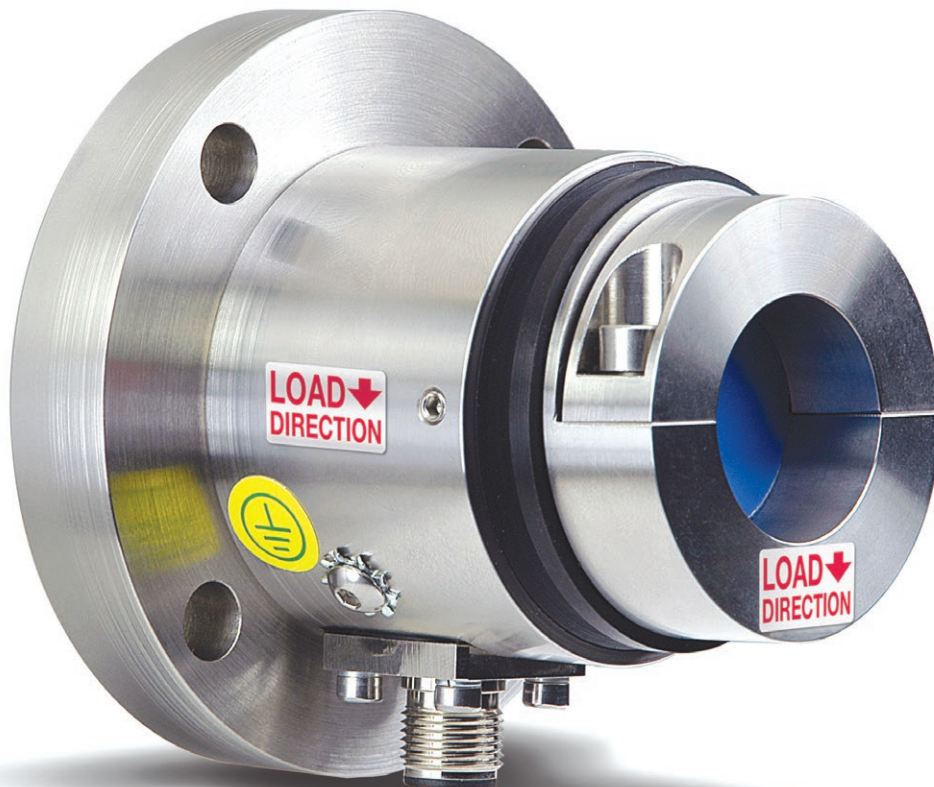
Using the M3xxx Analog Amplifier, the i4-M Indicator is available in single zone or multi-zone analog or digital display models.

WE MEASURE UP.

Always know the exact tension of your material. Only Montalvo load cells provide the industry leading precision, accuracy, and repeatability you rely on to monitor and control your web processing, while being more cost effective.

ES Load Cells

Industry leading resolution and sensitivity for superior accuracy and response.



OVERVIEW



Series	ES	N	U	X	TSR
Load Ratings	10 lb (50 N) to 1,000 lb (5,000 N)	10 lb (50 N) to 200 lb (1,000 N)	100 lb (500 N) to 20,000 lb (100,000 N)	10 lb (50 N) to 500 lb (2,500 N)	25 lb (125 N) to 200 lb (1,000 N)
Gauge Type	Half Bridge Semiconductor Strain	Full Bridge Semiconductor Strain	Half Bridge Semiconductor Strain	Full Bridge Semiconductor Strain	Full Bridge Semiconductor Strain
Roller Type*	DS / LS / LR	CL	DS / LS	Custom CL	Custom DS
Roller or Pulley Supplied	Option	Yes	Option	Option	Yes
Mount Type**	S/F/P	S/F	P	S/F	S/F/P
Body Sizes	3	3	4	2	2
Connector Type	4 Pin M12	4 Pin M12	4 Pin M12	4 Pin M12	4 Pin M12
Classification	IP54	IP54	IP67	IP54	IP54
Controller Compatibility	Z4/S4/3000 Series	Z4/S4/3000 Series	Z4/S4/3000 Series	Z4/S4/3000 Series	Z4/S4/3000 Series
Amplifier Compatibility	A4/M32xx Series	A4/M32xx Series	A4/M32xx Series	A4/M32xx Series	A4/M32xx Series

* DS=Dead Shaft LS=Live Shaft LR=Live Roller CL=Cantilevered ** S=Standard F=Flange P=Pillow block

†Support Half Bridge only

Montalvo Load Cells

ES SERIES

Extended Sensitivity Roller Load Cells

N SERIES

Narrow Web Cantilever Load Cells

U SERIES

Under Pillow Block Bearing Roller Load Cells

X SERIES

Wire and Ribbon Cantilever Pulley Load Cells

TSR SERIES

Custom Tension Sensing Rolls

LCR SERIES

Custom Load Cell / Roll Assemblies

LP SERIES

Low Profile Pancake Style Drop In Replacement Load Cells

N-Micro SERIES

Low Tension Narrow Web Cantilever Load Cells

DR-C SERIES

CMC Ultra/Legacy *Drop In Replacement* Load Cells

DR-D SERIES

DFE Model C *Drop In Replacement* Load Cells

VLC SERIES NEW

Individual End Tension Load Cells



HIGH RESOLUTION Cut Out the Noise

Montalvo load cells are the most sensitive tension sensors on the market. Superior engineering, high quality materials and precision manufacturing produce load cells that exceed design parameters. The result is phenomenal resolution and performance in web tension measurement.



RUGGED CONSTRUCTION Bring It On

Montalvo load cells are the most durable tension sensors on the market. Stainless steel construction, models up to IP67 classification, rugged shaft clamps, heavy duty bearings, sealed connectors, durable mounting options and overload protection assure a long service life.



EXTREME ACCURACY No Guesswork Here

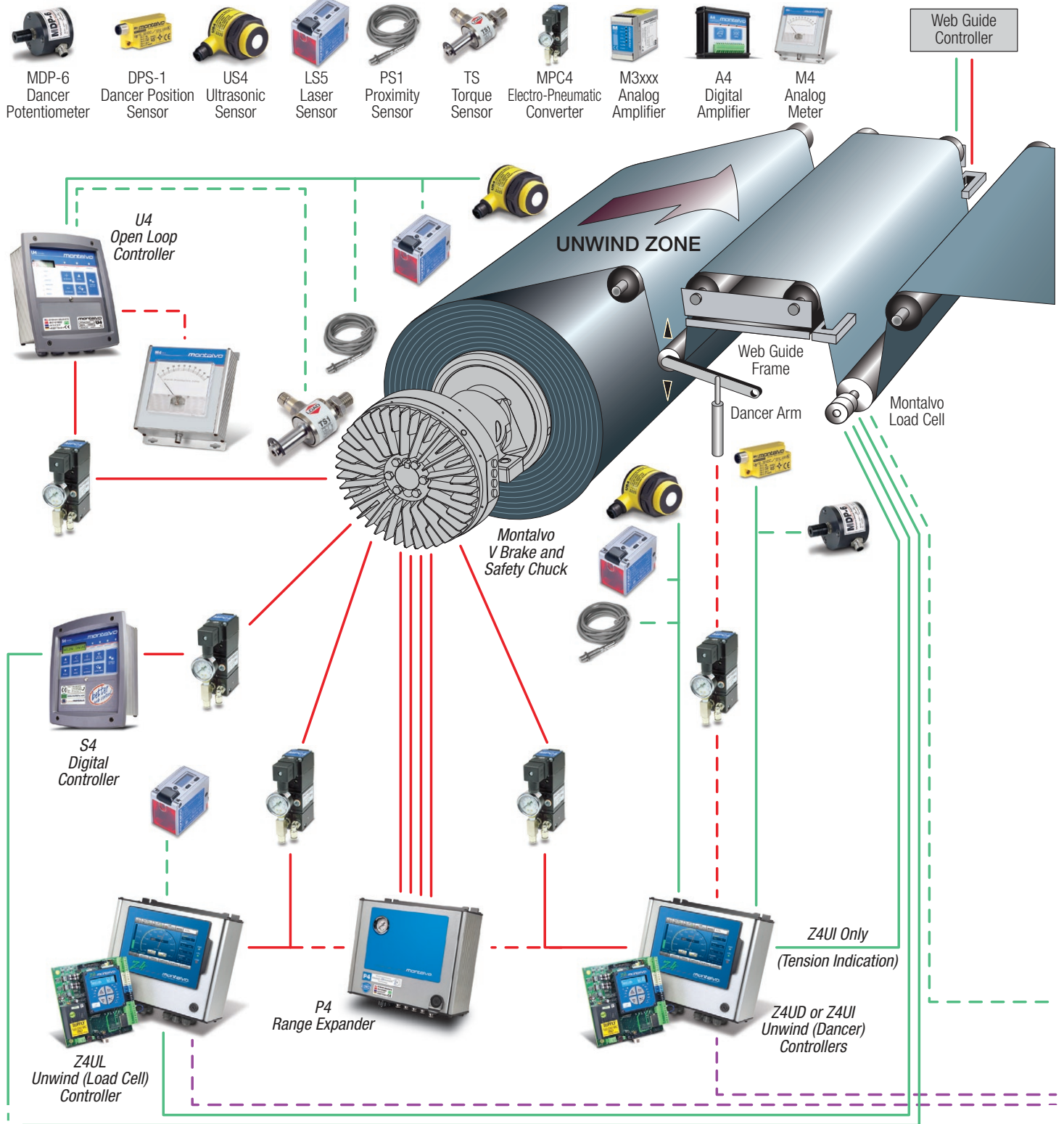
Montalvo load cells are the most precise tension sensors on the market. Critical tension control starts with accurate tension measurement. Our load cells are engineered to produce consistent, reliable tension signals not only in the most demanding environments but also from the most delicate of webs.



LCR	LP	N-Micro	DR-C	DR-D	VLC
10 lb (50 N) to 20,000 lb (100,000 N)	10 lb (50 N) to 600 lb (3000 N)	5 lb (25 N) to 25 lb (125 N)	50 lb (250 N) to 1,000 lb (5,000 N)	10 lb (50 N) to 1,000 lb (5,000 N)	0.5 lb (2.5 N) to 20 lb (100 N)
Full or Half Bridge Semi. Strain or Full Foil	Full Bridge Foil	Full Bridge Semiconductor Strain	Full or Half Bridge*** Semiconductor Strain	Half Bridge Semiconductor Strain	Half Bridge Semiconductor Strain
DS / LS / LR	DS / LS	CL	DS	DS	CL
Yes	Option	Yes	Option	Option	Yes
S/F/P	S/P	Shaft	S/F/P	S/F	Surface
7	3	1	4	3	1
4 Pin M12	4 Pin M12	Bare Wire or 4 Pin M12 Option	4 Pin M12	3 Pin	4 Pin M12
IP54 or IP67	IP54 (IP67 Option)	IP54	IP54	IP54	IP54
Z4 ⁺ /S4 ⁺ /3000 ⁺ Series	S4	Z4/S4/3000 Series	Z4 ⁺ /S4 ⁺ /3000 ⁺ Series	Z4/S4/3000 Series	VTC
A4/M3xxx Series	A4/M33xx Series	A4/M32xx Series	A4/M32xx Series	A4/M32xx Series	Internal or A4/M32xx Series

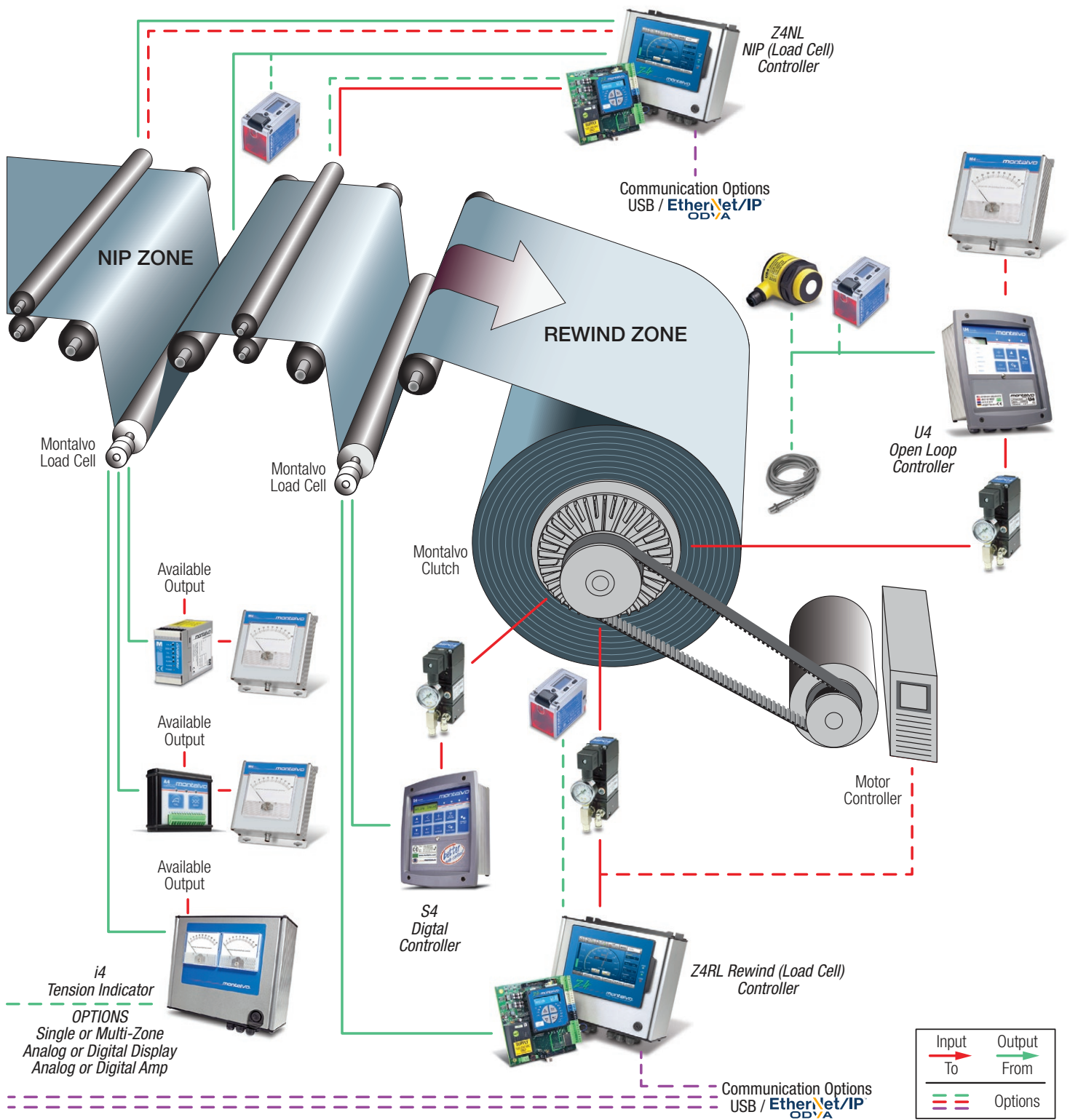
*** Available in Half Bridge upon request.

FROM UNWIND TO REWIND



Load Cells

Montalvo Solutions



Available Output

Available Output

Available Output

i4 Tension Indicator

OPTIONS
Single or Multi-Zone
Analog or Digital Display
Analog or Digital Amp



GOT CHUCK?



Safer. Tougher. Easier. Better. The newly re-designed Guardian G2 Safety Chucks have been expertly engineered to have a higher safety factor, with a rugged, hardened design, while being easier to load. Guardian Safety Chucks are simply **BETTER!**

Guardian G2 Safety Chuck

The best safety chuck on the market today offering the lowest total cost of ownership and shorter lead times.



OVERVIEW

Model	G2-500	G2-1000	G2-1800	G2-3000
Max. Roll Weight (per pair of chucks) ¹	1124 lb (5000 N)	2248 lb (10000 N)	4047 lb (18000 N)	6744 lb (30000 N)
Max. Torque ²	1151 in-lb (130 Nm)	1770 in-lb (200 Nm)	3363 in-lb (380 Nm)	10621 in-lb (1200 N)
Journal Size Range (A1-Square)	1.00 in (25 mm)	1.00-1.25 in (20-30 mm)	1.25-1.50 in (30-40 mm)	1.50-2.00 in (40-50 mm)
Journal Size Range (A2-Diamond) ^{1,2,3}	NA	1.00-1.25 in (20-30 mm)	1.25-1.50 in (30-40 mm)	1.50-2.00 in (40-50 mm)
Journal Size Range (A3-Triangle) ³	NA	0.787-1.181 in (20-30 mm)	1.260-1.496 in (32-38 mm)	1.575-1.850 in (40-47 mm)
Pedestal or Flange Mount	Option	Option	Option	Option
With Shaft End (Customer Specified)	Option	Option	Option	Option
Handwheel Lock	NA	Standard	Standard	Standard
Replaceable Journal Parts	Standard	Standard	Standard	Standard
Replaceable Handwheel Assembly	Standard	Standard	Standard	Standard
Axial Carrier	NA	Option	Option	Option
Hand Wheel Open/Closed Indication	Option	Option	Option	Option
Hand Wheel Opening Position Indication	Option	Option	Option	Option
High Speed Safety Chuck	Option	Option	Option	Option
Conical Chuck Journal Seat	Option	Option	Option	Option

¹ Max. Roll Weight must be reduced for A2 journal seats by approximately 25 to 30% depending on torque, speed and deflection of winding shaft.

² Max. Torque must be reduced for A2 journal seats by approximately 40 to 50% depending on torque, speed & deflection of winding shaft.

³ G2-500 available in A1 only.

Montalvo Safety Chucks

ADDITIONAL OPTIONS Enhance Your Safety Chucks

Reversible Safety Lock

Prevents unintentional opening of the hand wheel. Kits available to reverse location to improve operator accessibility.

Axial Carrier

Maintains precise shaft positioning and axial adjustment.

Conical Chuck Journal Seat

Allows use of simple journals without the risk of excessive stress and wear. This is a cost effective alternative to machining journals with difficult and expensive undercuts.

Handwheel Open/Closed Indicator

Indicates whether hand wheel is open or closed via an electronic sensor.

Handwheel Opening Position Indicator

Indicates when hand wheel is in precise open position via an electronic sensor.

High Speed Capacity

Handles web speeds in excess of 300 m (980 ft) per minute. This is achieved by balancing the hand wheel (with safety lock) and shaft.

Available with pre-installed
Montalvo brakes



JAWS Insert Here

Montalvo safety chucks offer hardened jaw parts that can be easily swapped out if worn. Replace just the parts and not the entire handwheel when maintenance is required. Save Time. Save Money. They can also be swapped out to accommodate other shaft sizes, making the Guardian a very cost effective web handling solution.



DEFINE SAFETY Making Safe Safer

Guardian Chucks feature re-designed A1, A2 and A3 journal seats to provide one of the highest safety factors in the industry. Combined with automatic locking in the case of accidental rotation and easier roll loading for operators; they put the 'safe' in Safety Chucks.



WE'VE GOT YOU COVERED Keeping Your Budget Safe Too

A longer service life combined with reduced maintenance costs give the Guardian Chucks the lowest total cost of ownership over the lifetime of a chuck. You really can have it all!



RUGGEDLY HANDSOME More Than Just Good Looks

Montalvo safety chucks may get old but they don't retire. A rugged, hardened design ensures a safe and long service life. Backwards compatible with Montalvo's G and KL chucks, they are the next generation in safety chuck design and engineering.

CORE VALUES MATTER

NEW

Kick Back, Relax and Unwind. A new level of performance, quality, convenience and safety for shaftless applications has arrived. Our GR Series Core Chucks give you superior gripping performance to maintain precise, reliable, consistent tension control from full roll to core.



GR Series Core Chuck

Achieve a lower total cost of ownership and shorter lead times for a *Better* core chuck.



OVERVIEW

Model	Pneumatically Activated (GRPA)				Axial Activated (GRAA)				Torque Activated (GRTA)			
	3	4	5	6	3	4	5	6	3	4	5	6
Core ID - Standard Sizes (in)	3	4	5	6	3	4	5	6	3	4	5	6
Max. Capacity* (lb)	2700	3150	4500	5600	2700	3370	4500	5600	3600	4720	6050	7870
Max. Capacity* (N)	12000	14000	20000	25000	12000	15000	20000	25000	16000	21000	27000	35000
Max. Torque* Cardboard Core (in-lb)	7080	9200	11500	13800	3360	3980	4780	6000	4870	7080	11000	16800
Max. Torque* Cardboard Core (Nm)	800	1040	1300	1560	380	450	540	675	550	800	1250	1900
Max. Torque* Steel Core (in-lb)	3550	4700	5850	7100	1770	2120	2550	3100	3365	4600	7350	10180
Max. Torque* Steel Core (Nm)	400	530	660	800	200	240	290	350	380	520	830	1150
Jaw Activation	Air / Spring Combination				Mechanical Side Pressure				Roll Torque (with spring retraction)			
Dual Core Option (single chuck step design)	Yes				Yes				Yes			
Multi Core Option (using adapters)	Yes				Yes				Yes			
Expanders	Leaf or Lug				Leaf or Lug				Leaf Only			
Finish	Black Oxide				Black Oxide				Black Oxide			

* Values are for a single chuck. Double the values when using chucks in pairs.

Montalvo Core Chucks

FEATURES and OPTIONS

Standard Sizes

Short lead times for fast delivery.

Custom Sizes and Specifications

For unique applications and/or drop in replacement.

Dual Core (Step Design) Option

For processes utilizing multiple core sizes – one chuck, two core sizes.



Dual Core (Step Design) Option

Modular Adapter Option

Modular adapters offer quick and easy core size changes from 3" up to 16".

Expander Option

Leaves or lugs can be specified at time of order to meet your core material needs.

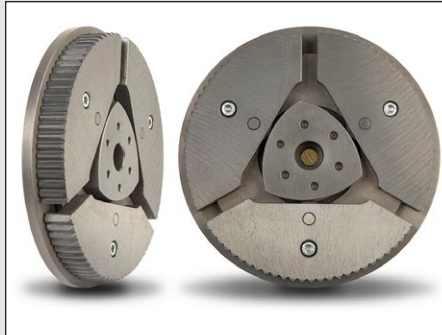
Heavy Duty GRPA-H Hybrid Option

Designed for extremely high torque applications if you require pneumatic chucks. The GRPA-H provides additional torque activated expansion and is recommended especially for steel cores, or for any heavy-duty application.

Narrow Profile GRTA-N Option

The GRTA-N is a compact torque activated design to meet your unique frame to core requirements.

GRPA with Air Gun fill option



SIZE MATTERS Space Saving Device

GRTA-N core chucks are extremely compact, allowing for longer cores or wider webs and can resolve other machine frame to core issues.



READY FOR ANY OCCASION Adapted Modularity

Modular adapters expand the versatility of our core chucks to meet whatever your application demands. Swap core sizes anywhere from 3" up to 16" with ease.



GET A GRIP Your Choice

All GR Series Core Chucks can be specified with leaves (or lugs on GRPA and GRAA) to provide superior gripping for maximum performance and hold to best meet the needs of your application.



THE SAME BUT DIFFERENT Drop-in Replacement

Upgrade your core chucks with ease. GR Series Core Chucks can be specified as drop-in replacements for your existing chucks. With custom mounting holes they are ready for immediate installation.

MAY THE TORQUE BE WITH YOU.

Montalvo literally invented the genre of air cooled, multi range pneumatic tension control brakes and since 1947 we haven't stopped providing the industry standard in brake technology. We deliver the performance, quality, torque range, and ease of use you rely on for smooth, reliable, consistent control.



HP High Performance Brake

Our most powerful, widest range brake evolving from almost seventy years of web tension experience.



OVERVIEW

Series	CS	CD	V	Standard	HP	CD	HPS	VCB
Type / # of Discs	Brake / Single	Brake / Dual	Brake / Single	Brake / Dual	Brake / Dual	Clutch / Dual	Clutch / Single	Brake / Single
Shaft Dia Max. _ in (mm)	1.375 (35)	1.75 (45)	4-1/2 (115)	5 (125)	4.5 (115)	1-3/8 (35)	2-1/2 (60)	-
Shaft Dia Min. _ in (mm)	0.50 (12)	0.625 (15)	7/8 (22)	7/8 (22)	1.25(35)	0.75 (20)	1 (25)	-
Torque Max. _ in-lb	600	2608	16726	20905	51120	1200	7021	40**
RPM Max	5500-7000	4285-7000	1940-4300	1940-4285	1300-4300	5500-7000	2900-4300	500
Heat Dis. Max. _ HP	2.4	9	40	42	150	5.2	17	.3
Pad Style	C	C	V	Standard or V	Standard or V	C	Standard	C
Module Style	CS2	CD2	V	Dual S or Dual V	Dual S or Dual V	CD2	Standard	C
Sizes	2	3	5	5	6	2	3	1
Safety Cover	Option	Option	2 Options	Option	Option	-	-	-
Friction Pad Types	Options*	Options*	Options*	Options*	Options*	Options*	Options*	Options*
Auxiliary Cooling	-	-	Option	Custom	Custom	-	-	-
Max Power Supply	75 psi	75 psi	75 psi	75 psi	75 psi	75 psi	75 psi	72 psi
Type	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic	Pneumatic

* Friction Pad Options: High, Medium and Low COF

** Based on standard core holder

Montalvo Brakes and Clutches

C-Series Compact Pneumatic Brakes and Clutches

Compact, low profile, single and dual disc brakes and clutches designed for light to medium duty applications. High capacity and low inertia.

V-Series High Performance Single Disc Pneumatic Brakes

From bolt to disc to pad, the V-Brake is designed to increase your productivity. No other brake in the industry is as easy to install, operate, and maintain as the V-Brake, while still delivering leading performance and quality standards. V Pads standard.

Standard-Series Dual Disc Pneumatic Brakes

Compact, dual disc performance and control with higher heat dissipation and easy maintenance. Quick and simple installation, wide available torque ranges, and V Pad compatible.

HP-Series High Performance Dual Disc Pneumatic Brakes

The ultimate tension control brakes with greater torque capacity, greater heat dissipation and enhanced performance to give you the crucial smooth, linear, control you require, of even the largest rolls. V Pad compatible.

HPS-Series High Performance Single Disc Pneumatic Clutches

Ensure a uniform, precise and high quality rewind process when you require higher heat dissipation, higher performance, and a wider torque range. Featuring high capacity and low inertia, for smooth, consistent control.

MP-Series Magnetic Particle Electric Brakes and Clutches

Ideal for clean room environments - delivering smooth, repeatable, linear and proportional torque to the electric current with silent operation.

VCB-Series Individual Tow Tension Creel Brakes NEW

A component of the **Vanguard™ System**, the VCB provides tension/torque control of individual creel positions as well as other compact, low tension narrow web and custom applications.



MP-B	MP-C
Brake / NA	Clutch / NA
(80)	(80)
(10)	(6)
8851	8851
1000-3000	1000-2000
9.3	4.6
-	-
-	-
13	14
-	-
-	-
Options	Option
1.7A @ 24VDC	1.7A @ 24VDC
Electric	Electric



EASY MAINTENANCE Pads...Gone in sixty seconds (or less)!

Time is money. So we've engineered our V Pad compatible brakes to save you money by minimizing the time it takes to change brake pads, when maintenance is required. No one makes a faster changing system. Our most popular brakes (V, HP and Standard) feature tool-less quick change pads. See for yourself at montalvo.com/goneinsixtyseconds



COOL UNDER PRESSURE Keep Out of the Heat

Montalvo brakes and clutches... Superior products that run really cool. With heat dissipation capabilities to 64 horsepower, and torque output to over 50,000 in-lb, our deep finned V and HP brakes cool off more heat than any other brake on the market.

CUSTOM SATISFACTION



Montalvo Automated Solutions (MAS) offers turnkey solutions leveraging Montalvo's Tension Control and Web Handling Expertise and Experience. With a vast range of solutions, customized to your exact needs, Montalvo Automated Solutions can easily integrate into your existing platforms, systems, and processes or can be a completely new standalone machine from unwind to rewind.

mas[™]
Montalvo Automated Solutions



OEM Support Builds

When there is a unique application out of the day-to-day production and scheduling, but you still want to offer a solution to your customer, Montalvo offers an OEM partnership. Many MAS builds have come from our OEM's taking advantage of Montalvo's capabilities to help them deliver solutions they simply may not be able to devote resources to at that moment. Keep the customer with you and leverage **Montalvo Automated Solutions OEM Support Builds**.

Montalvo Sensors

Critical to delivering key process signals used for higher quality production, Montalvo only provides the highest quality and highest performing sensors.



TS Torque Sensor

Measures torque directly from a Montalvo V or CS series brake; eliminating web contact and the need for a tension sensing roller using load cells or a dancer. The TS is at the heart of our Torque Sensing Control System.



US4 Ultrasonic Sensor

Provides an accurate, roll diameter signal. Simple to set-up and calibrate, with high accuracy and a IP67 classification. Compatible with U4 and Z4 Tension Controllers.



LS5 Laser Sensor

Provides an accurate, consistently stable non-contact diameter measurement in all web applications. Simple to set-up and calibrate. Compatible with U4 and Z4 Tension Controllers.



DPS Dancer Position Sensor

Provides a dancer position signal used by the Z4 for Closed Loop tension control of dancer unwinds. No wear parts and zero maintenance. Responds quickly and accurately to the slightest changes in the dancer's position.



MDP6 Dancer Position Sensor

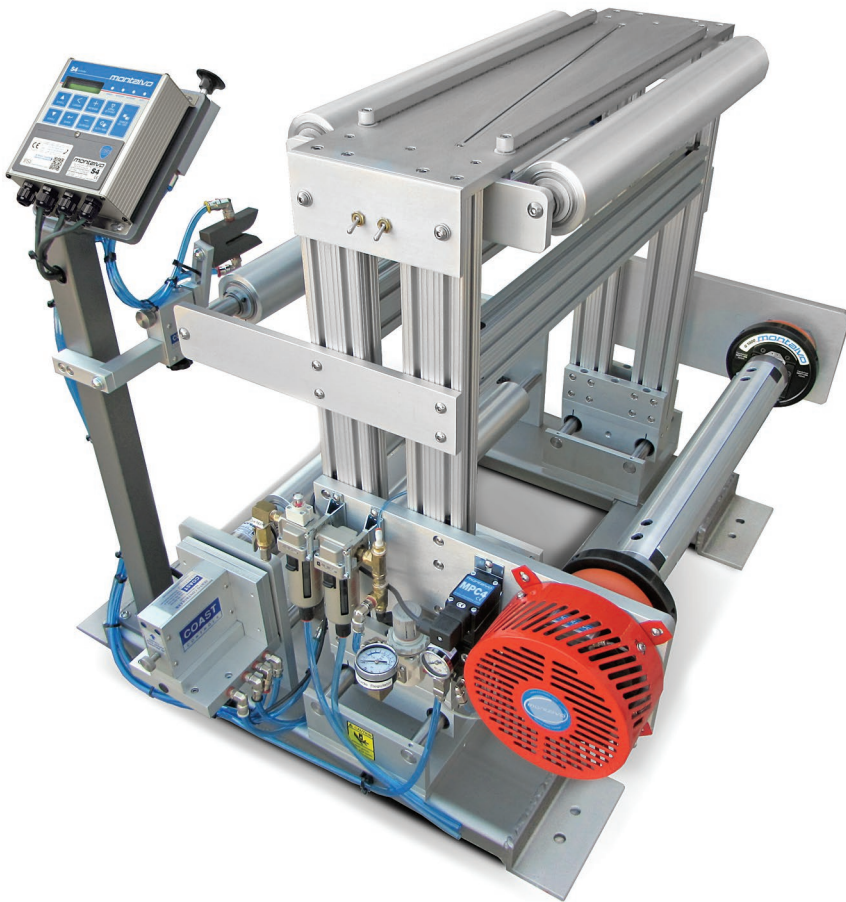
Provides an analog dancer position signal used by the Z4 for Closed Loop tension control of dancer unwinds. Highly accurate signal and engineered for minimal wear for an extended service life.



PXS Proximity Sensor

Used to supply an accurate diameter value. Simple to install and utilize; perfect for applications where other sensor signals may be difficult, ex: foam, narrow web, etc.

Web Guides



Montalvo has partnered with Coast Controls to be your single source for the best in Web Tension Control and Web Guide technology. Coast Controls All-Air-Web Guides are simple to install, simple to operate, are highly cost effective and have a longer service life. No electricity. No electronics. No hydraulics. And don't forget the unparalleled 10 YEAR warranty!



Displacement Web Guides

Corrects web misalignment by pivoting a set of guide rollers about a fixed point to geometrically displace (align) the web. Ideal for applications with space limitations a displacement guide provides correction with minimal entry and exit span requirements.



Unwind Web Guides

Provides accurate edge alignment for unwinding rolls of material at the beginning stage of a converting process. Montalvo tension controls and components insure proper web tension throughout the expiration of the roll.



Rewind Web Guides

Provides accurate edge alignment for winding rolls of material at the last stage of a converting process. Lateral stand movement insures constant alignment of the web from the converting/printing process.

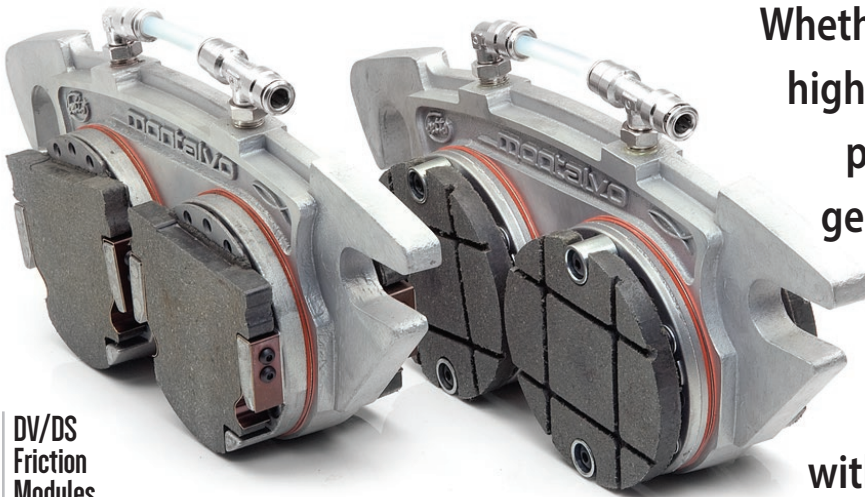


Steering Web Guides

Steering guides are used to compensate for web errors during the converting process. A Steering Guide is also called an Intermediate Guide because it is positioned between the beginning and the end of the web handling/ converting process.

Parts and Accessories

Whether your system needs those extra high quality bits and pieces or you are performing maintenance, get your genuine spare parts and accessories direct from Montalvo. Longer service lives, greater reliability, and unmatched performance with factory direct pricing. You won't find a better place to get your Montalvo parts than Montalvo.



DV/DS Friction Modules

Module fits both HP and Standard brake and is available in two friction pad styles.

MPC4 Electro-Pneumatic Converter

Converts electrical tension control signal to regulated air pressure to brakes/clutches.



VC+ Voltage Converter

A current regulated power supply compatible with Montalvo MP-Series brakes and clutches and Montalvo tension controllers.



Montalvo Friction Pads

OEM friction pads equipped on all new brakes/clutches and available as the recommended replacement for optimum tension control.



MAF3 AIR FILTER

Protects connected devices from moisture and fine dirt. Recommended for use with the MPC4.



MPR Pressure Regulator

High quality, compact MPR regulates brake air supply at any point in the system.



Safety Covers and Mounting Plates

OEM plates and covers provide hassle free mounting, easy service and exceptional operator safety.



Montalvo Friction Modules

OEM friction modules equipped on all new brakes/clutches with full line of service parts and expedited shipping.



MRU Micro Rotary Union

Provides continuous air supply connection to clutch on rotating shaft.



PDA Pneumatic Distribution Assembly

Standard duty pneumatic on-off valves in a gang of four controlling air supply to brake/clutch modules or manual range expansion.



Montalvo Services

On Site or In the Field;
We Are Here for You.
Whether it's getting
operators up to speed
on your tension control
equipment, keeping
your equipment running
at optimal capacity,
education, presenting
engineers with the
latest tension control
technology, or more; we
offer a variety of services
for you.

INSTALLATION & START UP ASSISTANCE

Let us do the work for you. Montalvo's Application Specialists ensure proper installation and start up, saving you time and effort. We will perform any necessary mounting, wiring, calibration, programming, etc, and will assist in getting your operators comfortable using the equipment, answering any questions and ensuring everything is in proper working order as you run your production.

ROUTINE CONTRACTED MAINTENANCE

Nothing lasts forever but proactive routine maintenance can make it seem like it will. Montalvo's Routine Contracted Maintenance can include:

- Thoroughly inspecting all systems in your facility (including competitive equipment)
- Provide a written report summarizing results of inspection
- Recommend & perform corrective action
- Provide operator & maintenance personnel training

APPLICATION CONSULTATION

Let us inspect all equipment and systems, provide consultation and recommendations for corrective action, and update/optimize any existing Montalvo equipment. Stay proactive and catch problems before they occur. Compared to the costs of your machine going down or needing costly repairs a simple application consultation keeps you ahead.

FIELD REPAIR SERVICES

In the event that you need repair, when you need us on site, we are there for you, getting your equipment back up and running as soon as possible.

PRODUCT & APPLICATION SEMINARS

For larger groups or for those looking to learn more about tension control concepts and how it can define successful production, Montalvo offers tension control product and application seminars. We have a library of topics to choose from or we can tailor a seminar around your specific goals. Past topics have included:

- The latest methods/tools in tension control
- Hints/tips/tricks for maximizing profitable webs
- Common symptoms & common solutions
- Accurate, consistent tension control for maximum productivity

1-ON-1 or GROUP TRAINING

Montalvo Applications Specialists can provide hands on one on one training or group training on your Montalvo Tension Control Equipment. Give your operators, maintenance staff, and trainers the specific knowledge they need to maximize the use of your Montalvo equipment ensuring maximum productivity from your machines.

TENSION

Tension is defined as the torque applied at the center of the roll, divided by the roll radius.

Tension = Torque / Radius $T=TQ/R$

For Unwinds	For Rewinds
$T = \frac{TQ}{R}$	$T = \frac{TQ}{R}$
• R is decreasing	• R is increasing
• TQ must decrease for constant tension	• TQ must increase for constant tension



Montalvo Lifetime Assurance

Our Promise to YOU



B

BACK to BETTER WEB CONTROL

Things happen. And when they do, our first priority is to get you back up and running as quickly as possible. We want your machine running.

L

LOCAL ACCESS

In Person, Phone, E-mail, or Online. With five worldwide offices (USA, Germany, United Kingdom, Denmark, China) and an authorized licensee and representative network throughout five continents, we give you the local dependability you rely on.

U

UNCOMPROMISING SERVICE & SUPPORT

Whether you have a single question, need a tension control consultation, require technical support or service, we are committed to you for the entire life of your Montalvo products and beyond. We are here for you.

E

EXPERTISE

Since 1947 Montalvo has differentiated itself by offering more than just high quality and high performance tension control products. We are your resource for the tension control expertise required to expand the capabilities of your machinery and production line.

**THE STANDARD FOR
RELIABILITY - DEPENDABILITY - PERFORMANCE**

HERE FOR YOU!



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montalvo®

Montalvo USA
(Corporate Headquarters)
Gorham, Maine 04038
USA
Tel: 1-800-226-8710
Tel: +1-207-856-2501
info@montalvo.com

Montalvo United Kingdom
London
United Kingdom
info.eu@montalvo.com

Montalvo Europe ApS
DK-8700 Horsens
Denmark
Tel: +45 75 57 27 11
info.eu@montalvo.com

Montalvo (Shanghai) Trading Co., Ltd.
Shanghai
China 200062
Tel: +86-21-52188010
info.cn@montalvo.com



Your local representative

www.facebook.com/montalvocorporation

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