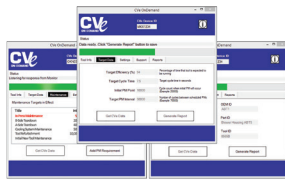




MOLD MONITORING

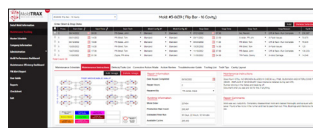
SECTION F



CVe Monitor	CVe OnDemand	CVe Live	Remote Validation Kit
Prefix: CVE			
Page: F-1	Page: F-3	Page: F-4	Page: F-4



ProFile	Asset Tags & Plates	CounterView: S-Series	CounterView: R-Series
	Prefix: AMTG, CVTG	Prefix: CVPL, CVIN, CVPLHT	Prefix: CVR-A, CVR-B
Page: F-6	Page: F-7	Page: F-8	Page: F-9



Insulator Blocks	CV/ CVe Cover Plates	Mold Trax	System Cooling
Prefix: CV, CVMM, CVRA	Prefix: CV		Prefix: SCM
Page: F-10	Page: F-12	Page: F-13	Page: F-14



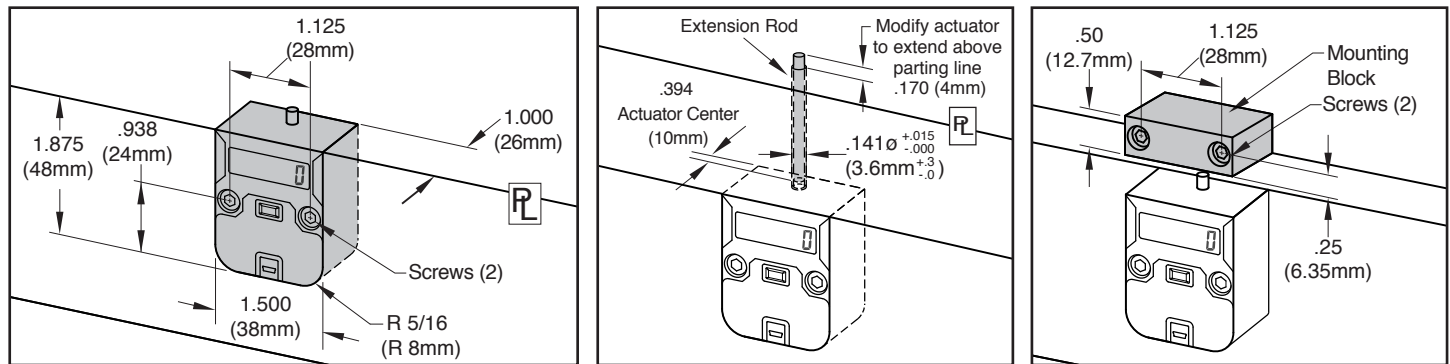
CVe MONITOR®

Progressive's CVe Monitor tracks tool activity, allowing users to view data on the display or from comprehensive reports using OnDemand or the online CVe Live System. Features include:

- 7-digit LCD display with a push button to move through the display modes.
- 16GB flash drive for file storage.
- Replaceable battery.
- Water resistant with an ingress protection rating of IP58.
- Maximum temperature: 190° F (90° C). For protection against higher temperatures, refer to the Insulators available on pages F-10 and F-11.
- Dimensional compatibility with Progressive's mechanical CounterViews.
- Mini USB connectivity for data retrieval with cables sold separately on page F-2.
- Cover Plates for protection are sold separately on page F-12.



MOUNTING OPTIONS



CATALOG NUMBER	DESCRIPTION
CVE	CVe Monitor including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)

CATALOG NUMBER	DESCRIPTION
CVE-INT	Internal Extension Rod (8"/200mm)
CVE-EXT	External Mounting Block including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)

How to Order:

- For installation below parting line (ie. rails as shown in the center graphic above), order (1) CVE and (1) CVE-INT.
- For installation outside of the mold (right graphic), order (1) CVE and (1) CVE-EXT.

ON-MOLD DISPLAY MODES

Each device is provided at -25 cycles to allow for mold set up and initialization of the CVe Monitor. Once it reaches zero (0), all timers and data will reset on the monitor. During production, users can press the button on the front of the monitor and review the following information on the display:

Cycle Count

Total cycles for the life of the mold is presented on the main screen.



Efficiency Percentage

The percentage of time that the mold has been actively cycling vs being idle.



Cycle Time

Since the first production cycle, cycle time for the life of the mold.



Efficiency Percentage-Recent

The percentage of time the mold has been active in the past 500 cycles.



Cycle Time-Recent

Cycle time for the past 500 cycles is shown in seconds.



Cycle Count Reset

Press and hold button to reset separate counter to 0 for interim monitoring of cycles.



Mold Temperature

View current temperature experienced by the monitor (°C) by pressing button twice.



Flash Drive

Utilize the 16GB flash drive by connecting the CVE to a PC/Tablet with an industry-standard mini USB cable, sold on page F-2.



US Patents: 8,899,955, 8,883,054, & 10,715,464. European and Chinese patents applied for and issued.

CVE MONITOR®

ON DEMAND ALERT MODES

Once data is initialized using the complimentary OnDemand software (from procomps.com/cve-ondemand) users can choose to be alerted to the following sets of conditions for the CVE Monitor.

Preventive Maintenance

During initialization, Preventive Maintenance (PM) checkpoints are entered and saved onto the CVE Monitor. If a PM checkpoint is exceeded, the CVE Monitor enters the PM alert mode and displays both a wrench icon and PM Due as shown at right.



When a PM is performed and entered via OnDemand or by the in-mold actuation/button push combination, the next checkpoint for the PM will be written. If no PM is performed, the CVE Monitor will remain in PM alert mode until the user performs all PMs whose thresholds have been exceeded.

Cycle Time

During initialization, the target cycle time can be written to the monitor using OnDemand. Any variation greater than 2% from the target will enter the alert mode and display the clock icon as shown at right. When the cycle time returns to within 2% of the target, the alert is removed.



Efficiency

During initialization, the target efficiency can be written to the monitor using OnDemand. Any variation greater than 2% from the target will enter the alert mode and display the percentage (%) icon as shown at right. When the efficiency returns to within 2% of the target, the alert is removed.



Low Battery

The CVE Monitor has a battery life of approximately 4 years in typical molding environments where temperatures are controlled. (The battery is 1/2AA lithium non-rechargeable with 3.6V.) When the battery reaches a specified level, the display will show a battery icon as shown at right, and the replacement kit can be ordered separately below..



RETROFITTING

Users can view additional data by double-clicking the button on the monitor:

Retrofit CVE for CounterView Tools

During initialization, molders can start the cycle count with the tool's actual cycle count from an existing CounterView or known cycles from maintenance records. Once entered, the user can see the total cycles for the tool, which includes the count of the cycles from the counter and those run with the CVE Monitor.



In the graphic at right, the tool had 1,000,000 cycles on it originally, but ran 507,288 after the CVE Monitor was installed.



CABLES AND CONNECTIVITY

Using a USB cable, users can connect the CVE Monitor to their computer or tablet and view data in OnDemand, outlining the reason for the report generation. Notes can be included and user information is recorded for historical reference. More details about OnDemand are on the following pages.



OnDemand Activity Log [Software Version 3.1.0/2.6.1/3.1.9]												
CVE Initialize Date	November 23, 2017	December 17, 2017										
Device ID	OKX1234	OKX1234										
Tool ID	85658	85658										
	Blower Housing	Blower Housing										
Part ID	ABT57	ABT57										
Program Name	Mocha	Mocha										
Customer	Crimson Fan	Crimson Fan										
Target Efficiency %	N/A	94%										
Target Cycle Time	N/A	7.5										
Initial PM Point	50000	50000										
Target PM Interval	100000	100000										
Cycles Prior to CVE Installation*	1000000	1000000										
OEM ID	N/A	ABT1										
ASSET ID	N/A	0356-5686										
Reason for connecting CVE Monitor												
Date/Time	Battery	Cycles	OD User	Conn. By	Company	Destination	REV	PM	REP	GEN	REVF	Notes
October 4, 2018	OK	507,288	INJECT11	Blake Fitz	Injection Tech	Crimson@crimson.com	N	N	Y	N	N/A	Replaced damaged core pin in cavity 4
October 4, 2018	OK	506,524	INJECT11	Blake Fitz	Injection Tech	Crimson@crimson.com	N	N	Y	N/A		Dust Pull
September 19, 2018	OK	491,274	INJECT11	Blake Fitz	Injection Tech	Crimson@crimson.com	N	N	Y	N	N/A	Pulled from production for mold operational issues. It is being sent for evaluation and rework
September 15, 2018	OK	482,567	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM: Cavity #2 was shutdown	
June 28, 2018	OK	354,001	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM	
May 31, 2018	OK	314,856	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM	
April 28, 2018	OK	260,002	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM: Cavity #2 was shutdown	
April 4, 2018	OK	211,563	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM	
March 22, 2018	OK	193,268	INJECT11	Blake Fitz	Injection Tech	Crimson@crimson.com	N	N	Y	N/A		3 cavities are shutdown. Pulled for evaluation and repair
February 7, 2018	OK	106,235	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM	
January 10, 2018	OK	58,725	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A	Full PM	
December 17, 2017	OK	9,265	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	Y	N	N/A		Initial mold inspection. There is no wear or damage to mold following initial run. Targets are set. Mold is released for production
November 23, 2017	OK	0	MOLDHOU1	Chuck Louse	Mold House	Crimson@crimson.com	N	N	N	Y	N/A	Mold is completed and released for sampling

CATALOG NUMBER	DESCRIPTION
CVEL-DATA9	USB 2.0 to Type B Mini 9 Foot Long, Right-Angle Cable
CVEL-DATA9S	USB A to Type B Mini 9 Foot Long, Straight Cable
CVE-USB-15	USB 2.0 to Type B Mini, 15 Foot, Common Straight Cable
CVE-REPLKIT	Battery Replacement Kit for the v3 CVE Monitor.



Drive comprehensive reporting using data from the CVE Monitor when running OnDemand software, available at no charge from procomps.com/cve-ondemand. OnDemand software enables the user to generate Adobe Acrobat (.pdf), Excel (.xls), and encrypted (.enc) reports to share with customers and other colleagues with these metrics:

- A: When the CVE is initialized, users can identify their tool and align with the device serial number which is tracked on reports utilizing different field options.
- B: The target cycle times and efficiency percentages can be entered. OnDemand also supports ten languages: English, German, Mandarin, Spanish, French, Italian, Japanese, Korean, Portuguese and Thai. Reports, generated in the chosen language, compare actual values to targets, providing a quick view of any variances.
- C: Statistics are provided to show quantity of total cycles and inactivity for the life of the tool.
- D: Weekly sessions are presented graphically to show production efficiency levels.
- E: Weekly cycle time and maximum mold temperature tracking identifies tools with variances over the past year.
- F: The productivity portion of the report takes the target preventive maintenance (PM) points set by the molder and compares them to actual maintenance pulls.
- G: The Maintenance Tab has nine user-definable PM points. In addition, customers can perform maintenance without having their laptop or computer near the CVE Monitor. By holding down the button, cycling the monitor once, and releasing the button, an event will be recorded. This is then added to the OnDemand reports when run.

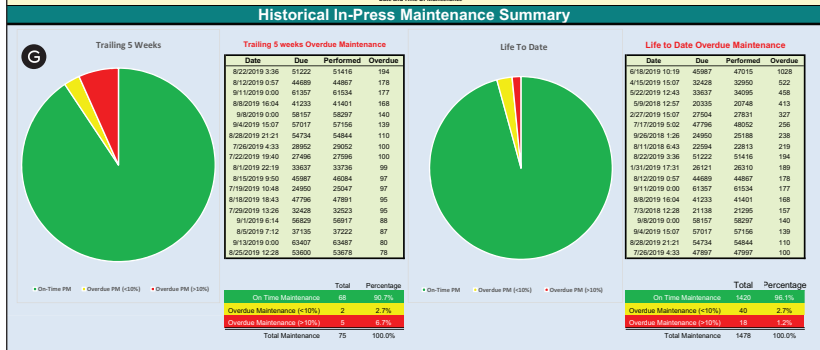
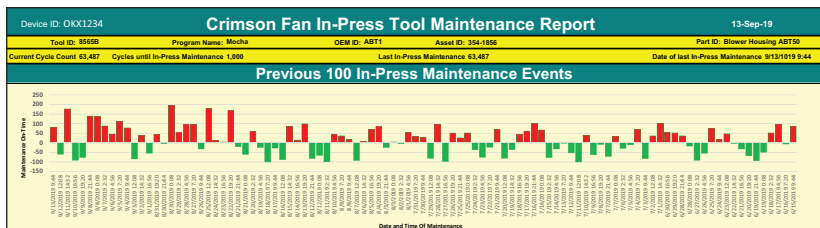
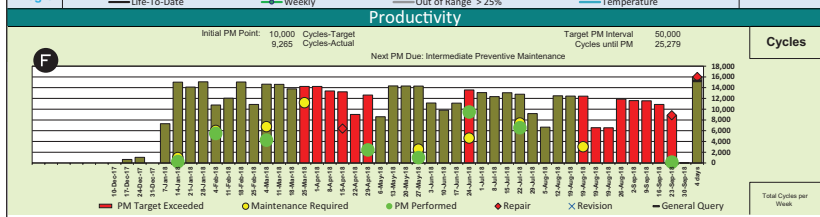
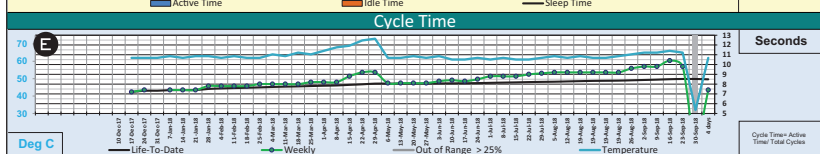
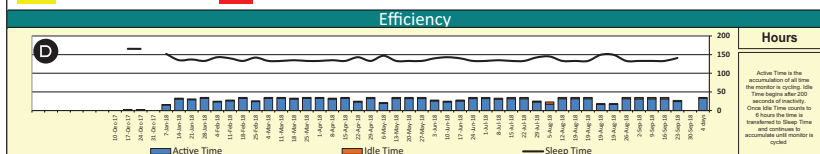
The screenshots show the following sections of the CVE OnDemand interface:

- Top Screenshot:** Shows tool configuration for 'Crimson Fan' (OEM ID: ABT1, Part ID: Mocha, Asset ID: 8565B). It includes a 'Generate Report' button.
- Middle Screenshot:** Shows 'Target Data' where users can set 'Target Efficiency (%)' to 94 and 'Target Cycle Time' to 7.5 seconds. It also includes 'Generate Report' and 'Get CVE Data' buttons.
- Bottom Screenshot:** Shows the 'Scheduled Maintenance (PM)' section with a table of maintenance events and a 'Generate Report' button.

Crimson Fan Performance Summary (04 Oct-2018)

Device ID: OKX1234, Tool ID: 8565B, Program: Green, OEM ID: ABT1, Asset ID: 354-1856, Part ID: Blower Housing ABT57

94%	Target Efficiency (%)	7.5	Target Cycle Time	2%	Within Target	507,288	Life-To-Date Cycles	24,721	Cycles since last
100%	Since Last Report Efficiency %	7.2	Since Last Report Cycle Time	2%	Between	1,000,000	Cycles Prior to CVE Installation*	PM	Repair 0
94%	Last Full Week Efficiency %	7.4	Last Full Week Cycle Time	6%	Outside Target	111	Hours Idle	Part Revision	Never
92%	Life-To-Date Efficiency %	8.5	Life-To-Date Cycle Time	8%		6,287	Hours in Sleep Mode	General Query	764
						1,197	Hours in Active Mode	Report	764



CVe LIVE®

For real-time monitoring of tools, Progressive provides hardware and website access for OEMs and molders utilizing the CVe Monitors.

Features:

- Utilizes FCC and CE certified internal components.
- Press Modules act as a node on a network, reducing the distance required in the plant for data submission to the Gateway.
- Radio Frequency (RF) antennas are interference-free in typical molding environments.
- Designated website for data collection, reporting, and file storage.



HARDWARE



Press Module

- 1 per press connects to the CVe Monitor via cables
- Power supply (US/International) included
- Sends data to the Gateway continuously
- Serves as a node on the network for tools running with a CVe Monitor
- Includes (1) CVEL-DATA9 Cable

Gateway

- 1 per facility collects data from all press modules installed via RF transmissions
- Accesses the internet via cellular technology
- Sends data to the customer's web portal every 15 minutes



REMOTE VALIDATION

Using the CVe Live website interface, the Remote Validation Kit eliminates the need to travel to mold trials and qualifications to gather information. Real-time data is available by connecting the portable system to the CVe Monitor on the mold.

- Can be easily moved between sites as qualifications dictate.
- Reduces or eliminates travel to mold qualifications.
- Users can upload and share files or documents including mold validation data, part drawings, process sheets, and quality inspection reports with global access.
- Monitor critical KPIs without being onsite.
- Generate real-time graphs and reports.
- Includes all hardware, antennas, and cables in a sturdy case. CVe Monitors and Tablets are sold separately.

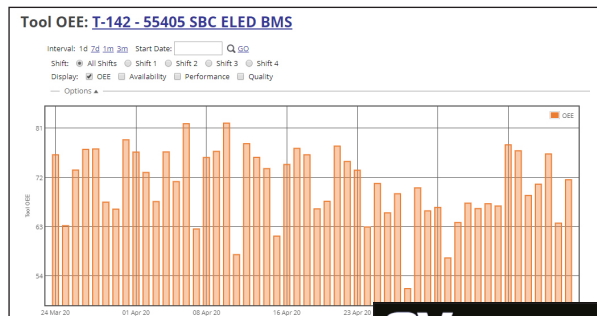
Contact Customer Service for a CVe Live or Remote Validation Kit quotation.





CVe Live Website Features:

- Secure access for OEMs and molders.
- The Tool Dashboard gives users information at either the enterprise or plant level and allows for drill down into specifics on each tool.
- A Press Dashboard provides an overview of the status of every press and the tools that are running within them.
- Users can mark favorites and also save searches for monitoring specific programs or suppliers.
- Graphs include cycle times, efficiencies, cavitation, production loss, and preventive maintenance.
- Plant exceptions screen shows any out-of-tolerance conditions.
- PM Function allows for user-defined PM intervals. Users can create or customize PM forms and checklists for a specific maintenance program.
- Work Order function allows users to create work orders for molds, machines, or other assets.
- OEE is calculated for both the press and the tool. This allows tooling and manufacturing operations to have separate OEE calculations to distinguish between equipment and tooling issues.
- GPS tracking allows for users to view the location of all tools by scanning a QR code using a GPS-enabled device. This feature is ideal for managers that are tracking multiple facilities or global operations. (Asset Tags sold separately on page F-7.)
- Administration and security levels are controlled by the user, and access can be customized for various roles.
- The file cabinet system is designed to store reports, tool and part drawings, and set-up sheets and can be utilized by customers with the CVe Live access.
- Automated Data Exporter allows users to schedule data exports. Data will automatically download to a specified location, in Excel or JSON format, where it can then be imported to other in use systems.
- User-defined fields make customizing data simple for Tools, Presses, and Assets.



ALL	TOOL ID	DEVICE ID	CURRENT COUNT	TARGET	1 WEEK EFFICIENCY	24 HR EFFICIENCY	1 HR EFFICIENCY	1 WEEK CYCLE AVG	24 HR CYCLE AVG	1 HR CYCLE AVG	PRODUCTION BY SHIFT 1	PRODUCTION BY SHIFT 2	CYCLES UNTIL PM	NEXT PM NAME	LAST PM DATE	LAST PM MAX TEMP	24 HR MAX TEMP	
	QP20037		4,913	90.0	95.0	95.0	100.0	16.2	16.2	16.8			95,087	Preventive Maintenance		26.00	26.00	
	T-142*	QP05200	1,151,808	90.0	79.0	81.0	90.0	7.2	7.2	7.2	72,464	82,928	-25,736	Level 1 Tool Maintenance	1,151,760	23-SEP-19	73.00	
	T-147	QP05500	57,281	90.0	91.0	86.0	100.0	10.3	9.8	7.4				856	Level 1 Tool Maintenance	48,137	26-AUG-19	86.00
	T-388	QP09500	62,910	90.0	99.0	100.0	100.0	166.3	165.8	165.4	262	258	8,016	Level 1 Tool Maintenance	60,926	19-SEP-19	41.00	
	T-325*	QP07500	76,512	90.0	66.0	64.0	53.0	7.2	7.2	7.2			-16,512	Level 2 Tool Hot Runner Maintenance	62,166	26-AUG-19	73.00	
	T-376	QP15500	138,991	90.0	98.0	98.0	100.0	54.5	54.9	53.8	1,548	1,538	4,032	Level 1 Tool Maintenance	133,023	19-SEP-19	66.00	
	T-447	QP01500	896,897	90.0	90.0	87.0	92.0	10.4	10.4	10.4	29,592	29,192	-18,416	Level 1 Tool Maintenance	868,481	19-SEP-19	86.00	

PROFILE® ASSET MANAGEMENT SYSTEM

A Different asset types require different types of data. Profile offers four asset classes (molds, dies, machines, equipment) with customizable asset types under each class. There are also several user defined fields to give users increased flexibility.

B Each asset page includes a filing cabinet to store critical documents associated with that asset. These documents can be easily accessed and shared by users with permissions. Users have 10GB of storage associated with their asset database.

C When logging in to ProFile via ProFile-System.com, the dashboard shows a breakdown of assets in the system by asset class. Clicking on any of the asset classes on the chart will drill down to the detailed listing. Also, the dashboard shows Preventive Maintenance status of assets for easy access to overdue PMs.

D See a complete list of all assets in one place or choose the tab for the asset class to filter by. All fields on the tool listing are sortable using the header fields.

The ProFile tracking system is a comprehensive solution for managing assets. The cloud-based system organizes assets and stores related documents and photos, while also logging GPS locations.

Several options of Asset Tags and Plates are offered on the following page.

C When logging in to ProFile via ProFile-System.com, the dashboard shows a breakdown of assets in the system by asset class. Clicking on any of the asset classes on the chart will drill down to the detailed listing. Also, the dashboard shows Preventive Maintenance status of assets for easy access to overdue PMs.

D See a complete list of all assets in one place or choose the tab for the asset class to filter by. All fields on the tool listing are sortable using the header fields.

Unique AST#	Cust	Asset Class	Asset Type	Asset ID	Location	Customer	Tool Owner	PRO ID
AST000000008	Progressive	Mold	Blow Mold	BM-8976	Plant B	Jones Ind	Contour Molding	CONM
AST000000004	Progressive	Mold	Injection Mold	M-IM6768-001	Miami, FL	Craig Industries	Craig Industries	CRIN
AST000000007	Progressive	Mold	Injection Mold	IM-1357-A	Austin, TX	Tech Industries	Acme Mold	ACME
AST000000005	Progressive	Die	Die Cast	D-2677	Plant 3	Tri Cast	Acme	ACMD
AST000000009	Progressive	Die	Die Cast	D-0980	Plant 4	Durable Products	Durable Products	DURP
AST000000006	Progressive	Die	Stamping	D-987	Building 1	Sky Products	Qwik Stamp	QKST

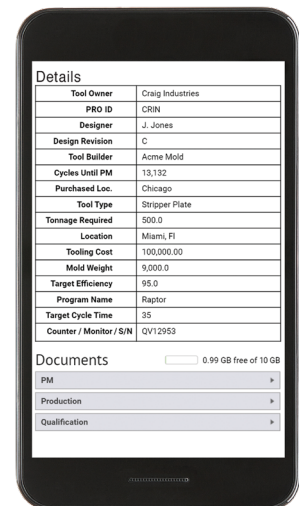
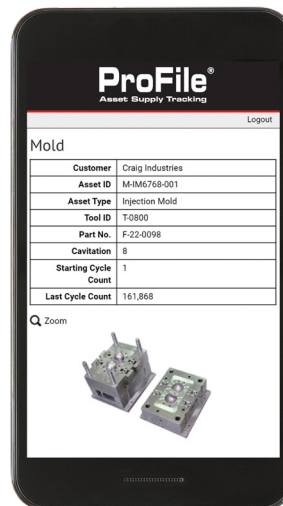
Mobile Functionality and GPS

Scan the QR code on the Asset Tags or Plates on your mobile device to see a summary view of the assets. To see additional data, press the details button. Every time a QR code is scanned, the GPS location is pushed to the cloud and recorded on the asset page.

Preventive Maintenance and Work Orders

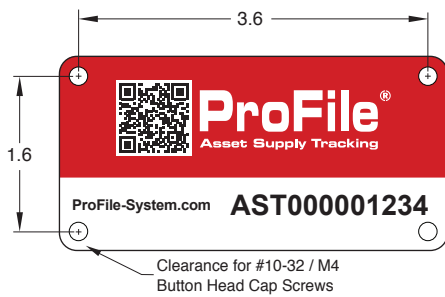
Users can create checklists and assign them to assets to view how many cycles or date assets are from requiring maintenance. To schedule maintenance or other activities, Work orders can be utilized to track unscheduled maintenance and repairs for assets.

For a demonstration or to set up an account for ProFile system access, contact Customer Service.





PROFILE® ASSET TAGS AND PLATES



SPECIFICATIONS: STANDARD TAGS

- Two sizes available for either ProFile or CVe Live database use.
- 8 mils thick aluminum, brushed finish.
- 3M 467 adhesive can be affixed to standard tool steel. Max temp 150°C (300°F)
- Serial number (AST prefix) is established by Progressive and aligns to customer-specific asset identification within ProFile-System.com.
- Small versions fit on CounterViews. Refer to page F-8.
- Minimum order quantity is 25 tags of any type and must be purchased in increments of 25.
- ProFile account required and established at time of purchase.

CATALOG NUMBER	SIZE	DESCRIPTION
AMTG-S24	4" x 2"	ProFile Asset Tag-Large
CVTG-S24	4" x 2"	CVe Live Asset Tag-Large
AMTG-S15	1.25" x .5"	ProFile Asset Tag-Small
CVTG-S15	1.25" x .5"	CVe Live Asset Tag-Small

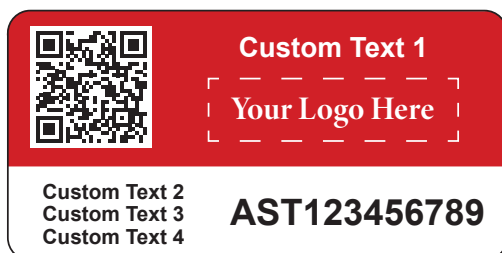
SPECIFICATIONS: STANDARD PLATES

- Size: 4" x 2"
- 20 mils thick aluminum.
- Provides heat resistance for assets up to 315°C (600°F).
- Bolts to mold base/asset with included button head cap screws.
- Minimum order quantity is 25 plates and must be purchased in increments of 25.
- ProFile account required and established at time of purchase.

CATALOG NUMBER	SIZE	DESCRIPTION
AMTG-P24	4" x 2"	ProFile Asset Plate
CVTG-P24	4" x 2"	CVe Live Asset Plate

CUSTOM TAG & PLATE ORDERING INFORMATION

- Specifications are same as standard Tags and Plates, shown above.
- Layout is as shown at left below, but the text can vary based on your requirements as shown on the sample at right. Also, the color can be selected to match your company's logos. All custom Tags/Plates include the QR code and unique serial number. Refer to the template in section X to submit your quote request.
- Minimum order quantity = 50 for 4x2" Plates and Tags; 100 for the 1.25 x .5" tags.
- Delivery for initial order is 3 weeks, including proof time.



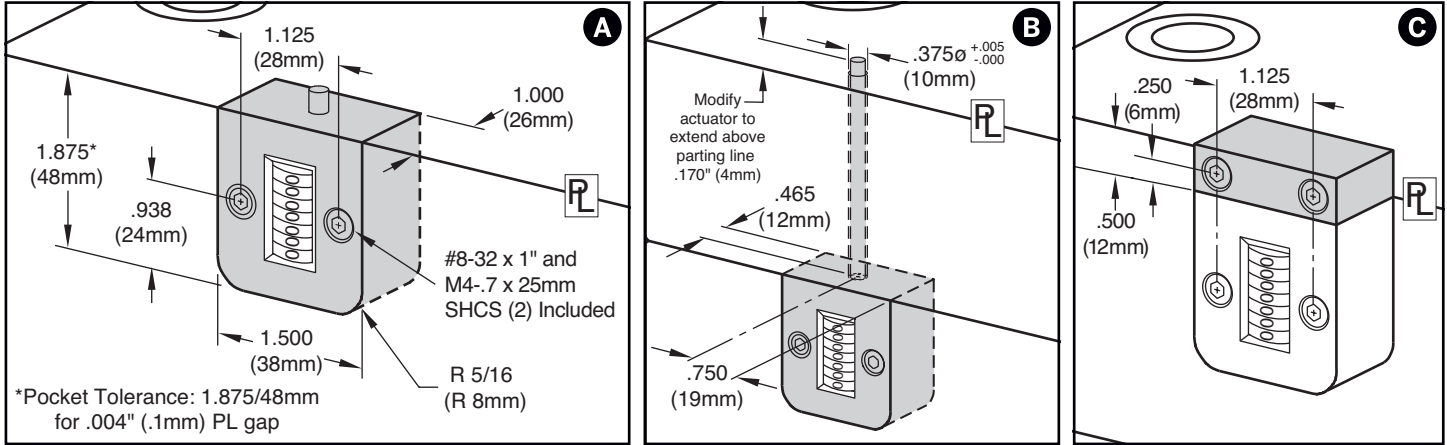
COUNTERVIEW® S-SERIES



Progressive's CounterView positively monitors mold activity, validates process monitoring data, and assists mold maintenance procedures.

- Maximum operating temperatures:
 - 250° F (120° C) Standard CounterView
 - 375° F (190° C) High Temp CounterView
- Counter: Non-resettable mechanical, 7-digit
- Available for installation on the movable or stationary halves and with extensions.
- For heat protection, refer to the Insulators available on pages F-10 and F-11.
- Cover Plates for protection are sold separately on page F-12.

M Glass-filled Nylon housing



MOUNTING OPTIONS

Parting Line Mount	A	Parting line mount makes unit easily visible to operator.
Internal Extension Mount	B	Machinable 8" (200mm) included extension rod allows installation in support plate or rail. Available with Standard CounterViews only.
External Mount	C	No pocket machining necessary. Designed specifically for retrofit applications. Order the Parting Line Mount and the CVE-EXT Block as shown below.

Operator Side: Movable Half / B Side



CATALOG NUMBER	VERSION & MOUNTING STYLE
CVPL-B	Standard: Parting Line
CVIN-B	Standard: Internal Extension
CVPLHT-B	High Temp: Parting Line

Screws included.

Operator Side: Stationary Half / A Side



CATALOG NUMBER	VERSION & MOUNTING STYLE
CVPL-A	Standard: Parting Line
CVIN-A	Standard: Internal Extension
CVPLHT-A	High Temp: Parting Line

Screws included.

Note: CounterViews can be ordered pre-set to a specific cycle count. Contact Customer Service for more information.

ACCESSORIES



CATALOG NUMBER	DESCRIPTION
CVE-EXT	External Mounting Block including #8-32 x 1" (2) and M4 x 25mm screws (2)
CVID	ID Plate for CounterView



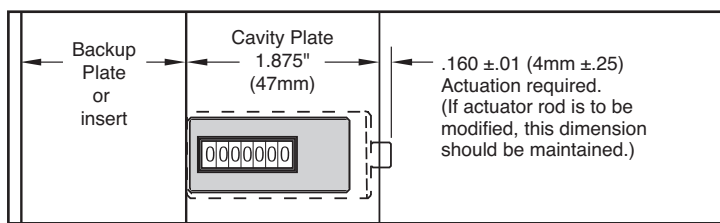
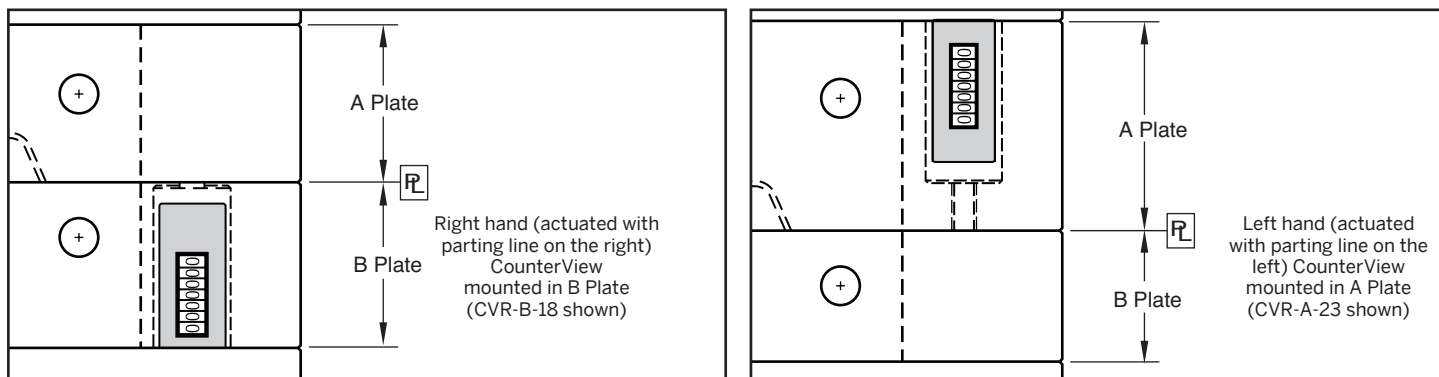
COUNTERVIEW® R-SERIES

Progressive's CounterView positively monitors mold activity, validates process monitoring data, and assists mold maintenance procedure

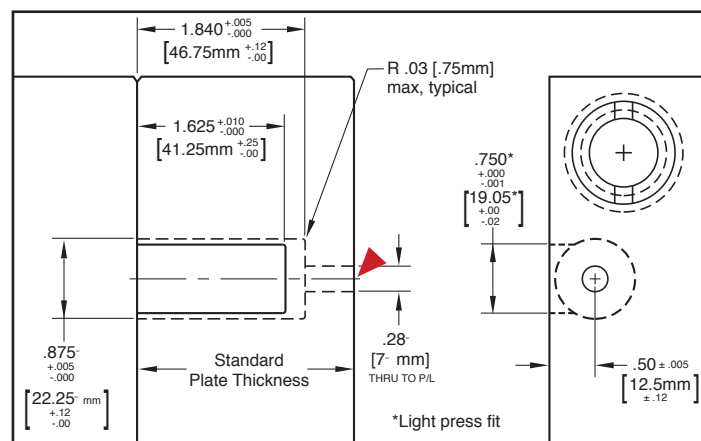
- Maximum operating temperature is 250 °F (120 °C). For protection against higher temperatures, refer to the Insulators available on pages F-10 and F-11.
- Counter: Non-resettable mechanical, 7-digit



M Glass-filled Nylon housing



The R-Series CounterView can be installed in the A or B plates with a minimum thickness of 1.875" (47mm). Larger plates utilize a threaded rod (included with each) that is pre-machined to the appropriate length for standard plate thicknesses to provide consistent actuation.



▶ CAD insertion point

Operator Side: Movable Half / B Side



Inch Standard		Metric Standard	
CATALOG NUMBER	Nominal Plate Thickness	CATALOG NUMBER	Nominal Plate Thickness
CVR-B-18	1.875	CVR-B-56	56
CVR-B-23	2.375	CVR-B-66	66
CVR-B-28	2.875	CVR-B-76	76
CVR-B-33	3.375	CVR-B-96	96
CVR-B-38	3.875	CVR-B-116	116
CVR-B-43	4.375	CVR-B-196	196
CVR-B-83	8.375		

Operator Side: Stationary Half / A Side

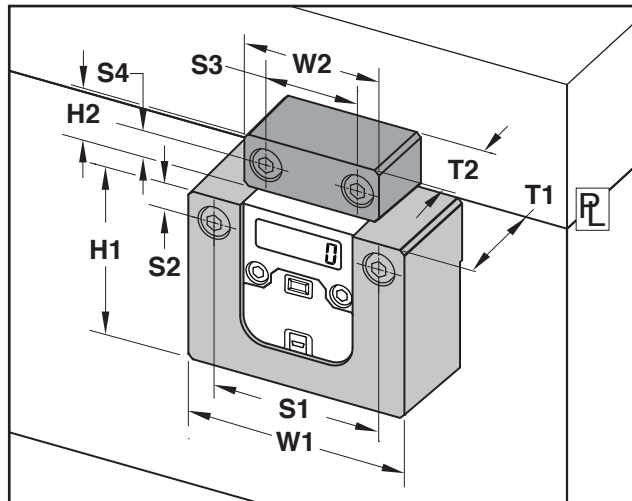


Inch Standard		Metric Standard	
CATALOG NUMBER	Nominal Plate Thickness	CATALOG NUMBER	Nominal Plate Thickness
CVR-A-18	1.875	CVR-A-56	56
CVR-A-23	2.375	CVR-A-66	66
CVR-A-28	2.875	CVR-A-76	76
CVR-A-33	3.375	CVR-A-96	96
CVR-A-38	3.875	CVR-A-116	116
CVR-A-43	4.375	CVR-A-196	196
CVR-A-83	8.375		

Each R-Series CounterView includes the actuator. All except CVR-B-18 and CVR-A-18 require attachment of the actuator rod to the threaded CounterView unit.

INSULATOR BLOCKS

EXTERNAL MOUNT



Application Guidelines:

- Maximum temperature: 180°C/360°F.
- Installation can be on the cavity or core half of the tool. For use with CVe Live, mount to the stationary half for optimum cable routing.
- The Inch or Metric Insulator Block accepts the screws from the S-Series CounterView sold on page F-8 or the CVe Monitor sold on page F-1.

M Durethan

CATALOG NUMBER	DESCRIPTION	HI	WI	TI	SI	S2	H2	W2	T2	S3	S4
CV-BLK	Inch version with screws: (2) 1/4-20 x 1-1/8 (Actuator) (2) 1/4-20 x 1-1/2 (Block)	2.37	3.00	1.37	2.250	.500	.75	2.00	1.00	1.000	.375
CVMM-BLK	Metric version with screws: (2) M6-1.0 x 30 (Actuator) (2) M6-1.0 x 40 (Block)	58.5	78	35	58	13	20	47	25	23	10

INSULATOR BLOCK

R-SERIES COUNTERVIEW ATTACHMENT BLOCK



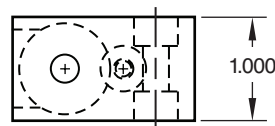
M A36 **S** Black Oxide

CATALOG NUMBER	DESCRIPTION
CVRA-100	CounterView Attachment Block Set

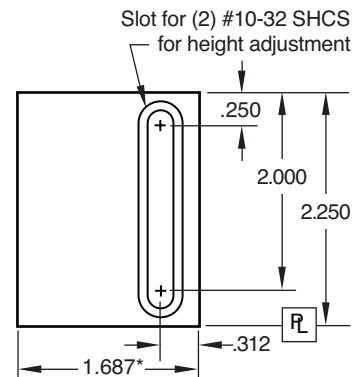
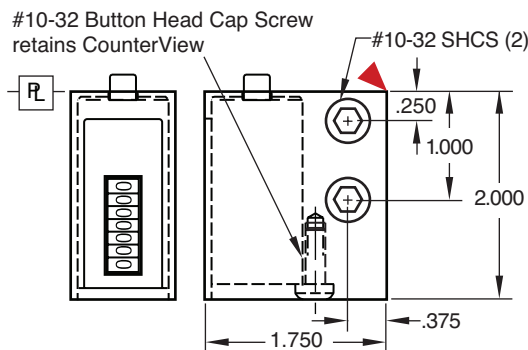
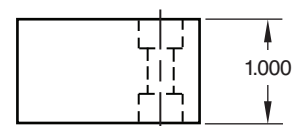
▶ CAD insertion point

The CV Attachment Block set includes both blocks and mounting screws. R-SeriesCounterViews are sold separately on page F-9.

CounterView Block



Actuation Block



Note: The width of the Actuation Block is smaller by 1/16" to allow for clearance if the CounterView Block is recessed into the mold.

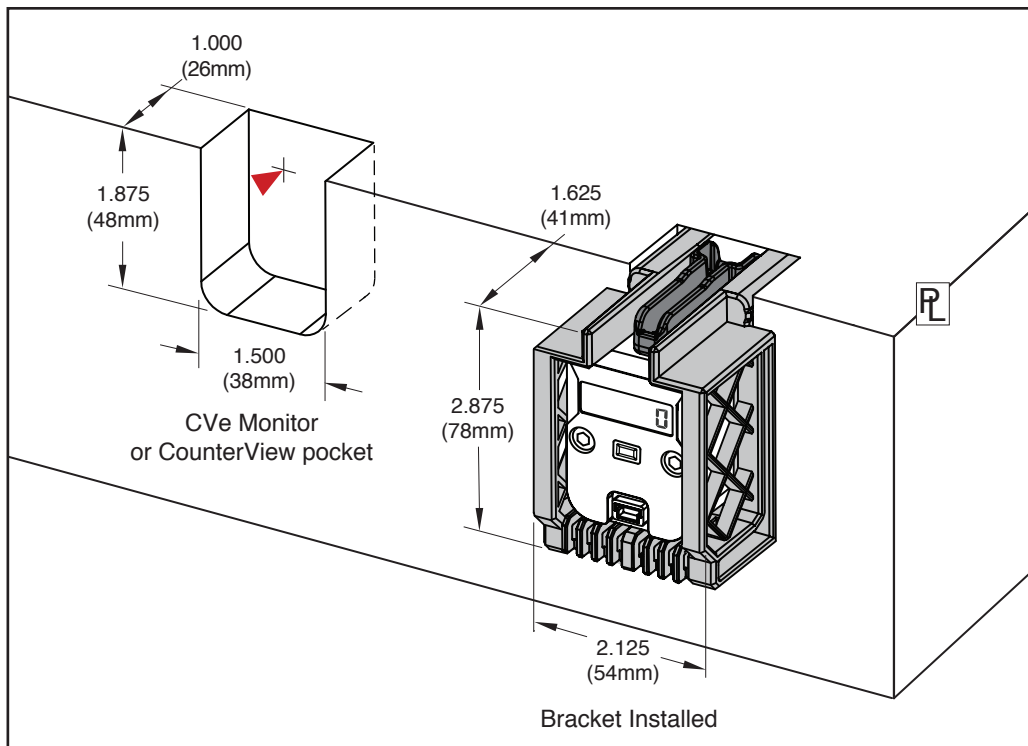


INSULATOR BLOCKS

RETROFIT BRACKET

Progressive's Insulator Bracket insulates the CVe Monitor or CounterView in high heat applications, installing within existing pockets without any modification to the mold's cavity half or core half.

- Maximum temperature: 210°C/410°F



▶ CAD insertion point

M Durethan

CATALOG NUMBER	DESCRIPTION
CV-BRACKET	Inch version with screws: (2) #8-32 x 1.5
CVMM-BRACKET	Metric version with screws: (2) M4-.7 x 35mm

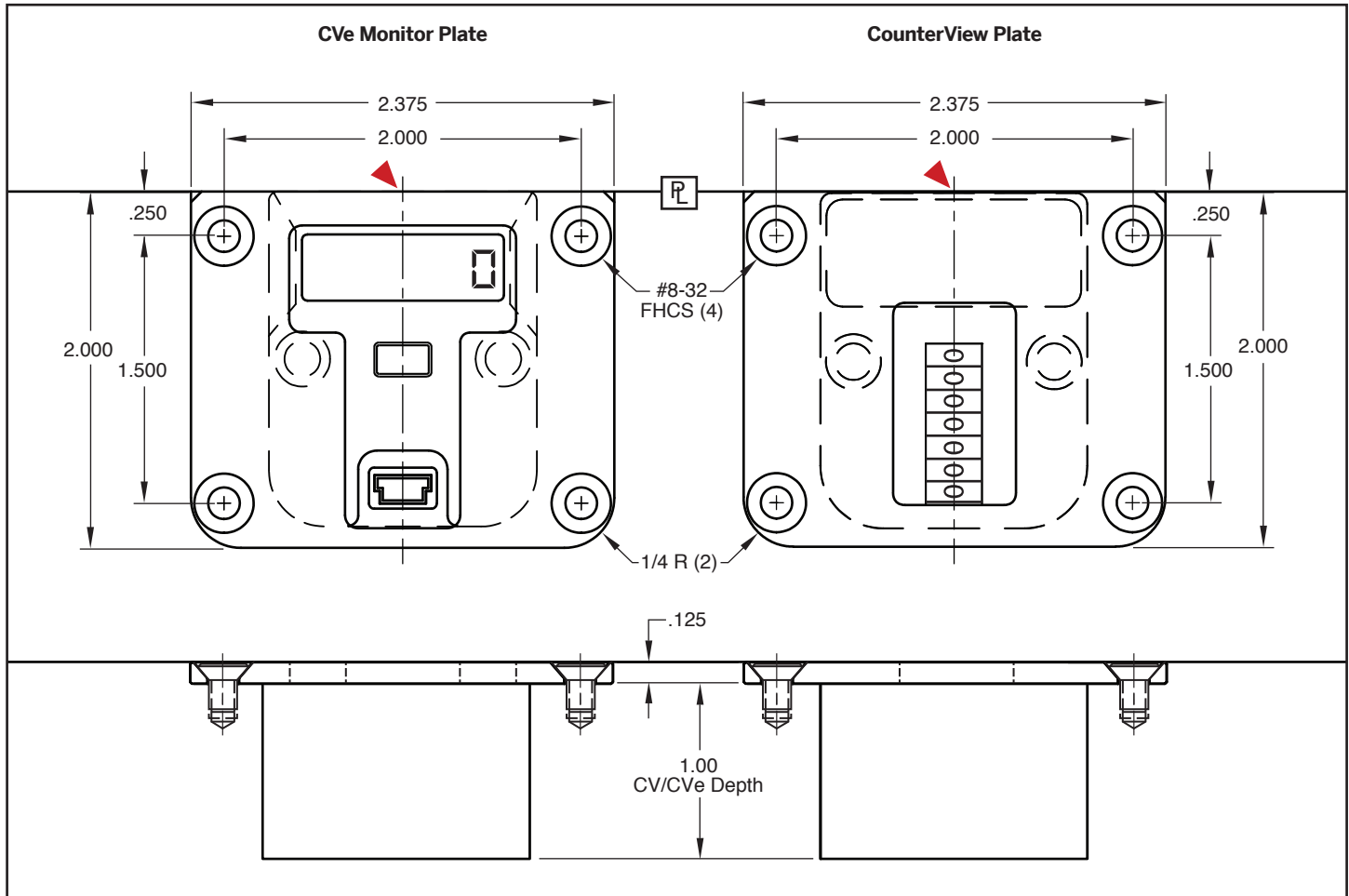
Application Guidelines:

- The Inch or Metric Insulator Block assembly sits in the pocket as shown above, and utilizes the screws from the square CounterView sold on page F-8 or the CVe Monitor sold on page F-1.
- The Bracket can be installed on the cavity or core half of the tool. For use with CVe Live, mount to the stationary half for optimal cable routing.
- The CVe Monitor or CounterView are actuated via a Striker which is attached to the Insulator Bracket as a single unit. No preload adjustment is required.

COVER PLATES



Progressive's Cover Plates protect the S-Series CounterView or CVe Monitor from damage during mold transfers.



▶ CAD insertion point

M 1018 **H** 135 Brinell **S** Black Oxide

CATALOG NUMBER	DESCRIPTION
CVE-PLT	CVe Monitor Cover Plate with (4) #8-32 x .312 long FHCS
CV-PLT	CounterView Cover Plate with (4) #8-32 x .312 long FHCS

Design Guidelines:

- Cover Plates can be used for both the A-Side and B-Side mounting options for the CounterViews sold separately on page F-8.
- CVe Monitors are sold separately on page F-1.
- The Cover Plates can be installed flush to the outside of the mold base by adjusting the depth of the pocket for the CVe Monitor or CounterView by the 1/8" thickness of the plate. If mounting on outside of the base, no pocket adjustment is needed.

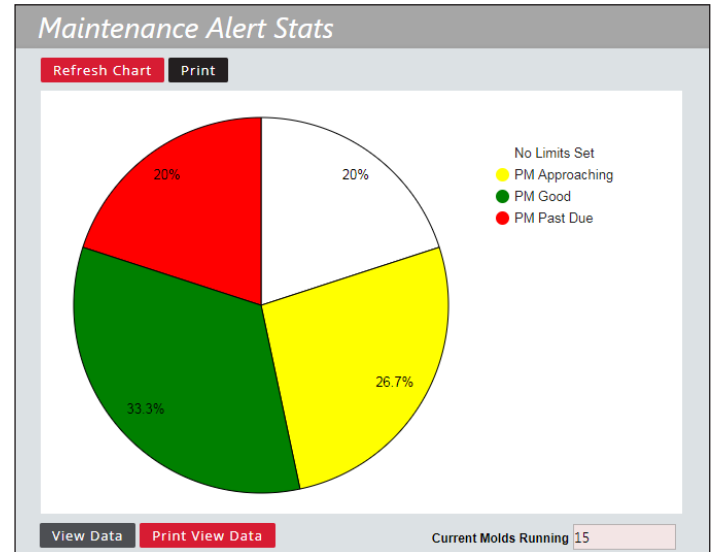


MOLDTRAX™

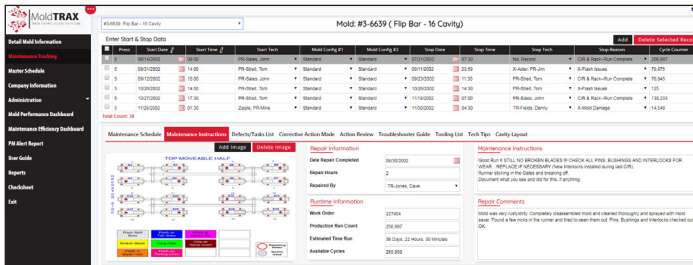
MOLD MAINTENANCE SOFTWARE

MTWEB Features Include:

- Completely accessible from anywhere in the world as a mobile-friendly, secure, web-based system.
- A Mold Performance Dashboard is available from the main screen that shows the ongoing ratio of Scheduled vs. Unscheduled mold stops and also Top Mold Tooling costs and part quality defects.
- Track all costs associated with individual or grouped molds, products, or mold frame styles.
- Comes preloaded with industry mold maintenance terms and explanations/descriptions in several important fields that can be edited/customized as the user requires.
- Many standard reports, specifically created for mold and maintenance tracking and cost analysis by entering the date range and selecting a report.
- Creates a baseline of data to set targets and goals and to measure continuous improvement.
- Includes a Maintenance Efficiency report for repair technician training.
- The contact database allows for entries of customers, vendors, and employees for easy accessibility.



- The PM Alert report shows what molds are running and proximity to a PM based on cycle counts that may be entered manually or electronically from many other systems.
- Link to images, videos and other external documentation instantly.
- All screens have been enlarged and many include Zoom windows with rich (customizable) text.



The Maintenance Tracking Section displays mold production run dates and times, press number and stop reasons, along with mold configuration changeovers.

Type	Description	Part #	Desc #	Vendor	Cost	Parts on Hand	Reorder Level	#D-dated	Date Ordered	Placed	Add Parts
Cavity	CAVITY, FROSTED, H.A. 8.5 deg. angle FOR THIS MOLD ONLY !! Do Not Flush Frosted	675003	-26	Tooling R Us	\$2,000	15	5				Add Parts
Cavity	CAVITY, HOUSING, H.H. 8.5 deg. angle FOR THIS MOLD ONLY !! DO NOT FLUSH FROSTED	675010	-25	Tooling R Us	\$925	6	5				Add Parts
Cavity	BUSHING, STRIPPER, C.H. Purple on Stock View	673003	-27	Tooling R Us	\$400	6	2				Add Parts
Cavity	CAVITY, FROSTED, H.A. (NEW) 8.5 deg. angle FOR THIS MOLD ONLY !! Do Not Flush Frosted	675003	-26	Tooling R Us	\$940	4	1				Add Parts

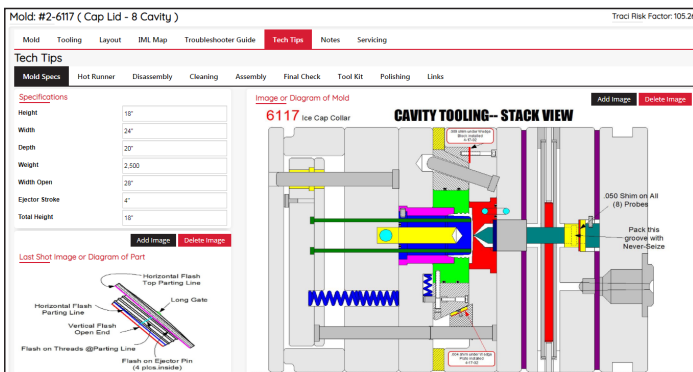
An Inventory Monitoring feature has been added to allow the user to see how many components are left in stock, reorder amounts, and dates. Links can be added for quick ordering from your favorite component supplier. An Inventory Report may be run to monitor inventory and check the balance on hand of all components, in all molds.

System Requirements:

- Only needs a browser such as Google Chrome.

MoldTrax Ordering Information:

- To order a copy of MTWEB or the MTWEB Upgrade, please call MoldTrax LLC at 1-419-281-0790 or email Steve@MoldTrax.com.



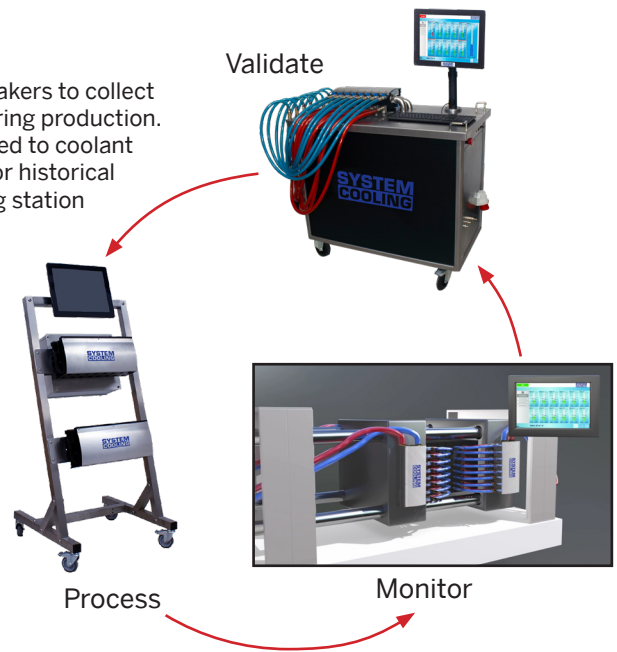
The Tech Tips section allows for critical bench procedures, techniques and special tools required to be documented, organized, and shared with tool room employees to keep repairs consistent and safe.

SYSTEM COOLING™

System Cooling is a suite of products that allows injection molders and mold makers to collect and view data on the cooling lines within a mold and the cooling parameters during production. Molders utilizing the process monitoring system can view and collect data related to coolant flow, temperature, and pressure with information recorded and time stamped for historical tracking. Mold makers and tool room managers can utilize the Test Rig, a testing station that analyzes the mold for flow capacity, leaks, and optimal process set points.

Benefits:

- Allows for troubleshooting of quality inconsistencies.
- Alarms when process deviations are detected, reducing scrap.
- Reduces setup errors by the detection of flow constraints due to closed valves or dead-headed circuits.
- Identifies flow deviations from long-term corrosion build up, blockages, or equipment faults.
- Identifies temperature deviations and fluctuations from cycle time changes, unauthorized adjustments, or equipment faults.
- Validations certify that molds are production-ready.
- Aids in scheduling maintenance intervals base off past analysis and historical data, while also providing reporting capabilities.



SYSTEM COOLING™ PROCESS MONITORING MANIFOLDS

The instrumented manifold takes the place of traditional distribution manifolds on molding machines. Its compact form and stainless steel construction grants versatility in a variety of applications from harsh environments to space-limited configurations and clean rooms. The flow sensors operate on the vortex flow principle without any moving parts. Manifolds can be mounted to the molding machine or a separate cart.

Manifolds monitor:

- Supply temperature
- Supply pressure
- Return temperature by zone
- Flow by zone
- Return pressure

Additional features include:

- Main supply and return ports on both top and bottom of manifold provide flexibility.
- No moving parts and large unrestricted flow path.
- Color-coded ball valves and 300 series connectors installed.



Ordering Information

ZONES	FLOW RANGE	MAX TEMPERATURE	CATALOG NUMBER
4	.25-5.25 GPM / 1-20 LPM	200° F / 95° C	SCM-4-1-SS
		250° F / 120° C	SCM-4-1-SS-HT
	.5-10.5 GPM / 2-40 LPM	200° F / 95° C	SCM-4-2-SS
		250° F / 120° C	SCM-4-2-SS-HT
8	.25-5.25 GPM / 1-20 LPM	200° F / 95° C	SCM-8-1-SS
		250° F / 120° C	SCM-8-1-SS-HT
	.5-10.5 GPM / 2-40 LPM	200° F / 95° C	SCM-8-2-SS
		250° F / 120° C	SCM-8-2-SS-HT
12	.25-5.25 GPM / 1-20 LPM	200° F / 95° C	SCM-12-1-SS
		250° F / 120° C	SCM-12-1-SS-HT
	.5-10.5 GPM / 2-40 LPM	200° F / 95° C	SCM-12-2-SS
		250° F / 120° C	SCM-12-2-SS-HT



Flow and temperature are measured in each zone individually.

Monitoring system consists of Manifolds and required electronics. Please contact Customer Service for system information and quotes.



SYSTEM COOLING™ SOFTWARE

The System Cooling software interface is easy to use with only five screens to navigate. The system provides real-time information, historical data, and profiles (mold ID, circuit names, and data thresholds) for mold management:

A Information Display

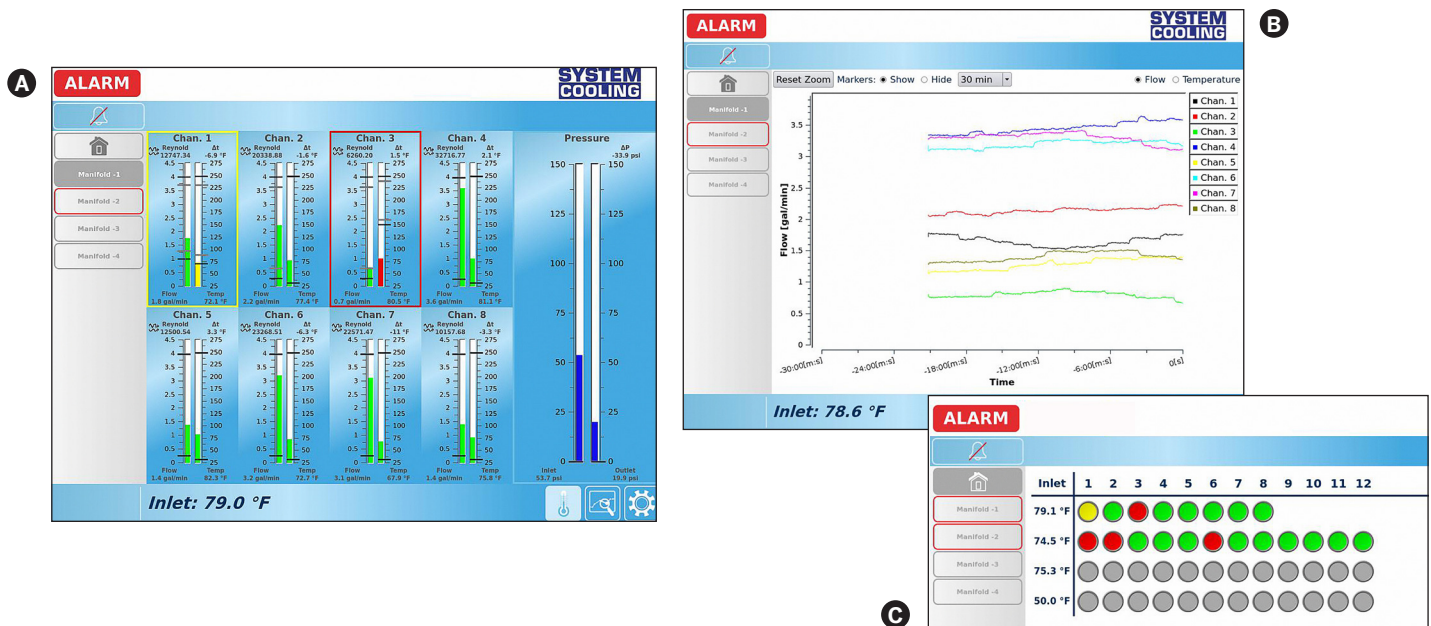
- Temperature deltas between supply and return are calculated per zone.
- Reynolds numbers are calculated per zone, and laminar, transitional, or turbulent status is displayed.
- Alarms are activated per monitored parameter based on the profiles of the molds.

B Historical Data

- Graphs present data for the most recent two hours of production.
- Data can be exported via USB or by network connection for viewing in Excel or additional systems.

C System Overview

- The status of the entire system, all zones of all manifolds, can be viewed at a glance.



MOUNTING

The System Cooling Monitoring System can either be permanently installed on a molding machine or mounted to a mobile cart as shown on the following page.

When mounted to a machine, the System Cooling I/O module, included with every system, can communicate to external devices such as the molding machine, part diverters, stack lights, and data networks.

- Alarm or warning state can switch molding machine to semi-auto or manual mode.
- Part diverters can automatically separate nonconforming parts.
- Illuminate stack lights for visibility to technicians.
- Data markers from the molding machine, typically at the beginning of each cycle, can be accepted and overlaid on the data.
- Machine idle state input signals the system to suppress alarm output during alarm state.

The system is also VNC capable, eliminating the need for a touchscreen controller. The interface can be accessed via VNC from a smartphone, laptop, or the machine controller.

Note: Molding presses must be verified for compatibility.



SYSTEM COOLING™ PORTABLE CART

As an alternative to permanently dedicating System Cooling to a press, the system can be mounted to a mobile cart.

Applications that can benefit from a mobile cart include:

- Troubleshooting
- Process development for new molds.
- Ad-hoc projects and validation efforts.

On the standard carts, one or two manifolds can be mounted utilizing the item numbers below. Custom configurations are also available by contacting Customer Service.



Ordering Information

CATALOG NUMBER	TYPE
SCP-CART8	Portable Cart for 8-zone Manifolds
SCP-CART12	Portable Cart for 12-zone Manifolds

SYSTEM SPECIFICATIONS

Contact tech@procomps.com for additional specifications or questions.

MANIFOLD SPECIFICATIONS	
Manifold Feed Ports	1" BSPP
Circuit Ports	3/8 (-1) or 1/2 (-2) NPT
Regulation	Color-Coded Ball Valves
Connections	300 Series Quick Connectors
Maximum Pressure	145 PSI
Maximum Temperature	200° F / 95° C (Std) 250° F / 120° C (High Temp)
Flow Sensor Type	Vortex
Accuracy-Flow	1.5% fs
Accuracy-Temperature	+/- 1.5% fs
Resolution-Temperature	0.9°F/0.5°C
Response Time	< 1 s
Seals	EPDM

SOFTWARE & ELECTRONICS SPECIFICATIONS	
Display	15.6" Touch Screen
Communication Ports	Ethernet / USB
Communication system	ASCII (USB)/HTML/SSH (optional)/VNC
Supported Protocols	USB Serial / TCP / IP
Machine Controller Integration	VNC
Maximum Supported Manifolds	8 Manifolds / 96 Zones
Display Units	°C, LPM, Bar / °F, GPM, PSI
Alarm Units	User Defined
Warning Limits	10% of alarm limits (optional)
Alarm & Warning Output	N/C and N/O Dry Contacts
Marker Input	24 VDC Galvanically Isolated
Idle Input	24 VDC Galvanically Isolated
Power Supply	12-24 VDC



SYSTEM COOLING™ TEST RIG

The Test Rig analyzes molds to validate, maintain, and optimize processes. The Rig runs flow capacity and pressure leak tests, and the premium version also determines optimal cooling process parameters. Reports are generated from the results and can be sent, saved, or printed. The Test Rig is a standalone test station equipped with a water reservoir, pump, 8-zone manifold, and unique control system and offered with three different models for customer applications.

New Molds

Mold makers are able to provide new tools to the customer complete with a report of operating parameters, including data relating to the cooling circuits in the mold. Traceable documentation of design validation for flow capacity under simulated production conditions and leak testing is provided by the Test Rig. These benchmarks are vital for any quality assurance process and establish a baseline for future comparisons.

Mold Maintenance

Mold cooling circuits need to be maintained regularly to remove scale and rust to ensure maximum productivity. With the Test Rig, the cooling channels can be analyzed and tested easily. The pressure can be precisely controlled by the variable output pump through the user interface to simulate the production environment. Each report can be compared against the baseline values to determine required maintenance and establish maintenance intervals for future service. The test results certify that a mold has regained flow capacity values and is in ready to run condition before being sent back to production.

Process Optimization

The cooling circuit flow capability at a given supply pressure is determined by the flow capacity test. The additional optimization executed by the extended flow test within the premium version determines the minimum required supply pressure to achieve maximum flow. This aids in defining process parameters to conserve central cooling supply capacity, potentially leading to reduced energy consumption.



Ordering Information

CATALOG NUMBER	FLOW RANGE
SCTR-1-*	8 Zone Test Rig - .25-4 GPM / 1/15 LPM
SCTR-2-*	8 Zone Test Rig - .5-10.5 GPM / 2-40 LPM

Specify the Test Rig catalog number above followed by the model suffix shown at right. Ex: SCTR-2-M will be the Test Rig Premium Model with the higher flow range.

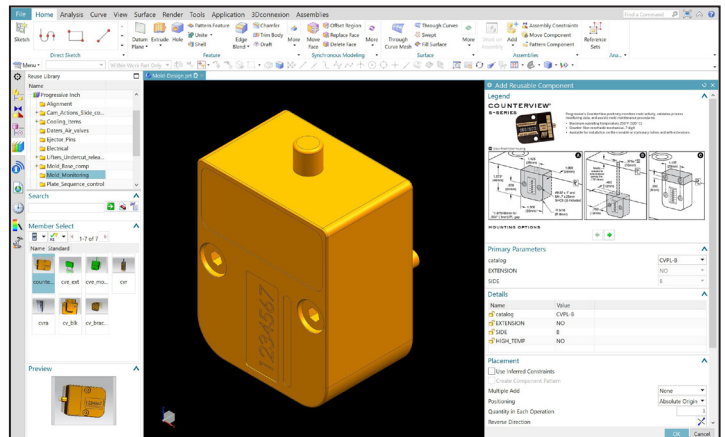
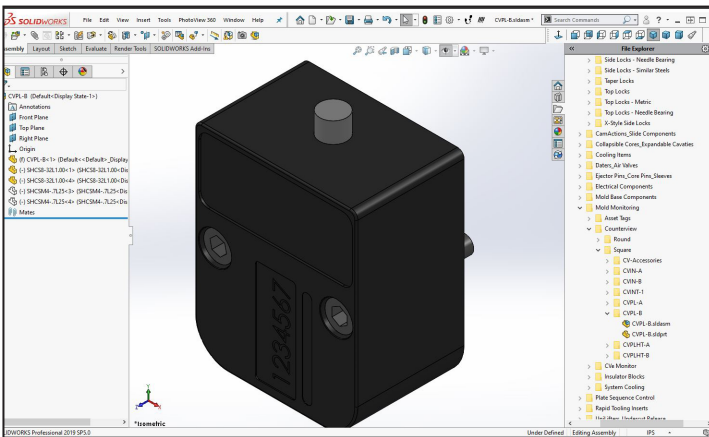
MODEL TYPE	FEATURES
Test Rig (-B)	<ul style="list-style-type: none"> Flow capacity and leak tests Plug and play, ready for testing Ports for data export or networking
Test Rig Plus (-P)	Includes basic Test Rig features, plus: <ul style="list-style-type: none"> Advanced software with extended flow optimization test. Built-in WiFi router capable of sending reports directly to a printer
Test Rig Premium (-M)	Includes the same features as the Plus model and adds: <ul style="list-style-type: none"> Automatic water change system

TEST RIG SPECIFICATIONS	
Zones	8
Regulation	Color Coded Ball Valves
Connections	300 Series Quick Connectors
Flow Sensor Type	Vortex
Accuracy - Flow	1.5% fs
Max Total Flow	32 GPM / 120 LPM
Max Pump Pressure	85 PSI
Max Rated Pressure	145 PSI
Seals	EPDM
Display Units	°C, LPM, Bar / °F, GPM, PSI
Ports	Ethernet and USB
Power Requirements	480v 60Hz 5A

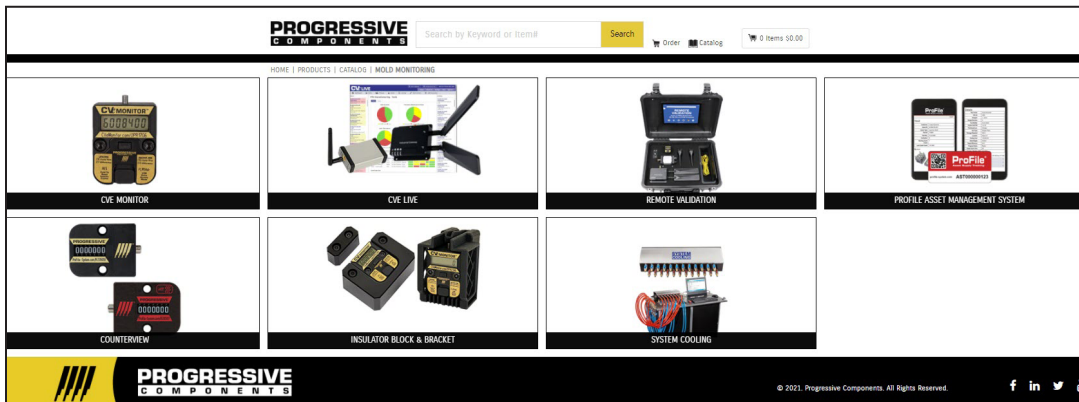
ONLINE RESOURCES



When considering design options, numerous animations can be viewed at procomps.com/animations.



CAD geometry is available online as individual downloads or as part of the CADalog system. The seven formats include: IGES (.igs), ACIS (.sat), STEP (.step), Parasolid (.x_t), SolidWorks (.sldasm), NX (.prt) (Re-Use and MoldWizard) and Visi (.wkt).



Industry-leading web store expedites the purchasing process. Go to shop.procomps.com for information and additional resources.

