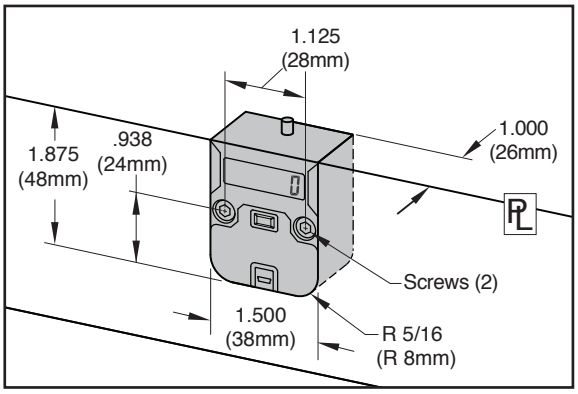
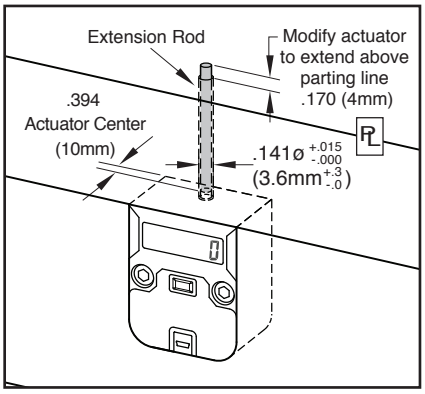
CVe MONITOR®

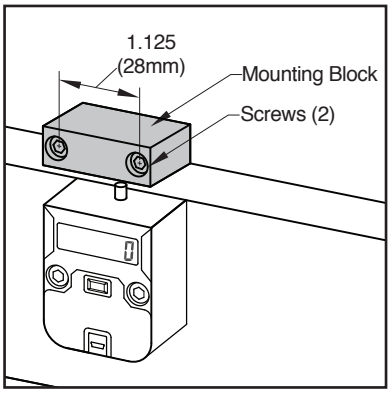
Progressive's new CVe Monitor v3 tracks tool activity, allowing users to view data on the display or from comprehensive reports using OnDemand or the new CVe Live System. Features include:

- 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 high temp tools, contact tech@procomps.com.
- Recommended mounting is on the stationary half of the mould.
- Dimensional compatibility with Progressive's mechanical CounterViews.
- Mini USB connectivity for data retrieval with cables sold separately.

MOUNTING OPTIONS







CATALOGUE NUMBER	DESCRIPTION
CVE-M	CVe Monitor v3 Mould Maker/Moulder version includes #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)
CVE-O	CVe Monitor v3 OEM version including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)

CATALOGUE NUMBER	DESCRIPTION
CVE-INT	Internal Extension Rod (8"/200mm) includes a hex key for CVe Monitor set screw removal.
CVE-EXT	External Mounting Block includes #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)

OEM-specific CVe Monitors are available. Contact Progressive for more information.

How to Order:

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

ON-MOULD DISPLAY MODES

Each device is provided at -25 cycles to allow for mould set up and initialisation 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 mould is presented on the main screen.

Cycle Time
Since the first production cycle, cycle time for the life of the mould.

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

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

Efficiency Percentage
The percentage of time that the mould has been actively cycling vs being idle.

Efficiency Percentage-Recent
The percentage of time the mould has been active in the past 500 cycles.

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

Flash Drive
Connect the CVe to a PC/Tablet with an industry-standard mini USB cable (sold on next page) to utilise the 16GB flash drive.

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

PROGRESSIVE COMPONENTS

CVe MONITOR®

ON DEMAND ALERT MODES

Once data is initialised using the complimentary OnDemand software (from www.CVeMonitor.com) users can choose to be alerted to the following sets of conditions for the CVe Monitor.

Preventive Maintenance

During initialisation, 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-mould 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 initialisation, 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 initialisation, 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 moulding environments where temperatures are controlled. When the battery reaches a specified level, the display will show a battery icon as shown at right. This is the indication to replace the battery, which can be ordered by contacting Customer Service.

RETROFITTING

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

Retrofit CVe for CounterView Tools

During initialisation, moulders 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

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	MKX1234	MKX1234
Tool ID	8565B Blower Housing	8565B 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	REVN	Notes
October 4, 2018	OK	507,288	INJECT1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	Replaced damaged core pin in cavity 4
October 4, 2018	OK	506,524	INJECT1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	N	Y	N/A	Data Pull
September 19, 2018	OK	491,274	INJECT1	Blake Fitz	Injection Tech	CrimsonQ@crmn.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	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM: Cavity #2 was shutoff
June 28, 2018	OK	364,001	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM
May 31, 2018	OK	314,856	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM
April 28, 2018	OK	260,002	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM: Cavity #2 was shutoff
April 4, 2018	OK	211,563	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM
March 22, 2018	OK	193,268	INJECT1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	3 cavities are shutdown. Pulled for evaluation and repair
February 7, 2018	OK	106,235	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM
January 10, 2018	OK	58,725	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	Full PM
December 17, 2017	OK	9,265	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	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	CrimsonQ@crmn.com	N	N	N	Y	N/A	Mold is completed and released for sampling

Above: OnDemand allows users to view data and keep a record of reports run, outlining the reason for the report generation including PM, General Queries, Revision Changes, and Repairs. Notes can be included and OnDemand records the person generating the document for accurate history.

CABLE CATALOGUE NUMBER	DESCRIPTION
CVEL-DATA9	USB 2.0 to Type B Mini 9 Foot Long, Right-Angle Cable

Above: Cables are available for use with the CVe Monitor and are required for both connecting to the computer for OnDemand and for the CVe Live system.

Drive comprehensive reporting using data from the CVe Monitor when running OnDemand software, available at no charge from CVeMonitor.com.

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 initialised, users can identify their tool and align with the device serial number which is tracked on reports utilising 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.

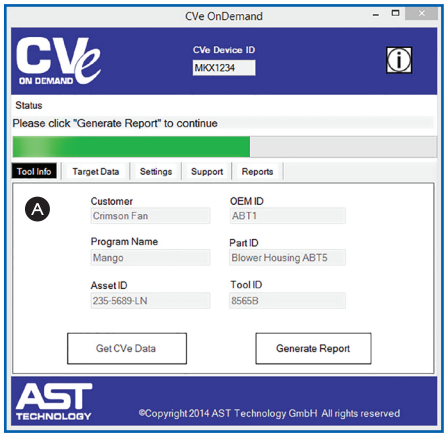
C: Statistics are provided to show quantity of total cycles and inactivity for the life of the tool.

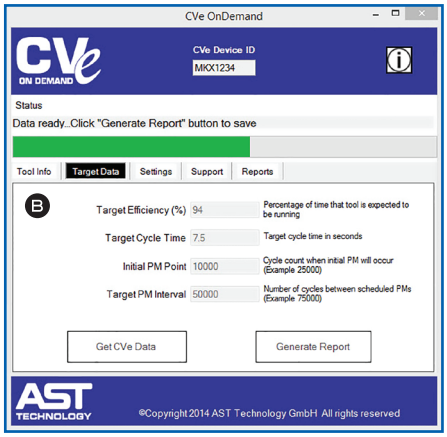
D: Weekly sessions are presented graphically to show production efficiency levels.

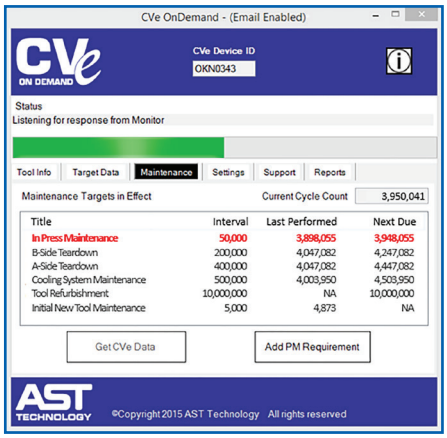
E: Weekly cycle time and maximum mould temperature tracking identifies tools with variances over the past year.

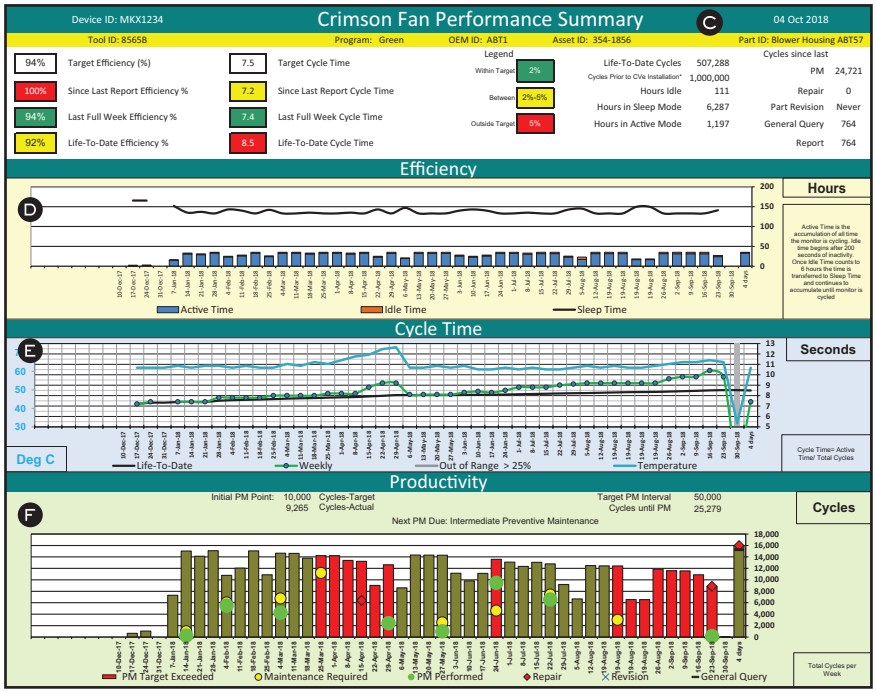
F: The productivity portion of the report takes the target preventive maintenance (PM) points set by the moulder and compares them to actual maintenance pulls.

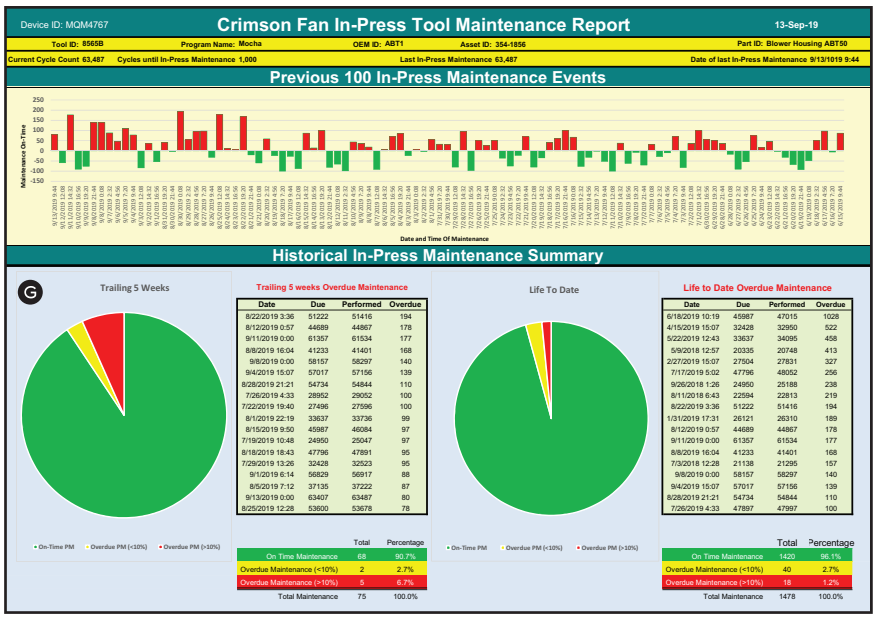
G: The Maintenance Tab has nine user-definable PM points. In addition, customers can perform maintenance without having their laptop or computer near the CVe Monitor. By holding down the button, cycling the monitor once, and releasing the button, an event will be recorded. This is then added to the OnDemand reports when run.











CVe LIVE®

For real-time monitoring of tools, AST provides hardware and website access for OEMs and moulders utilising the CVe Monitors.

Features:

- Utilises 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 moulding environments.
- Designated website for data collection, reporting, and file storage.

CVe Live is developed and supported by AST Technology, sister company of Progressive Components.

Press Module

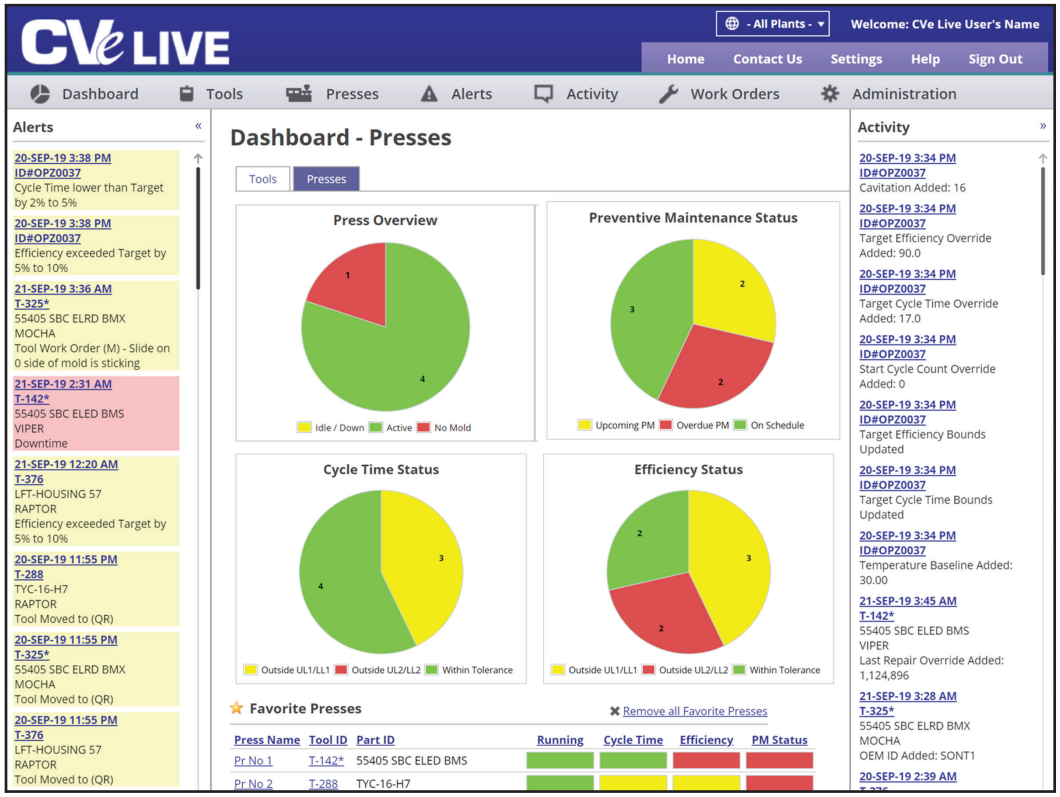
- 1 per press connects to the CVe Monitor via cables
- Power supply (US/International) included
- Sends data to the Gateway continuously
- Serves as a node on the network for tools running with a CVe Monitor
- Includes (1) CVEL-DATA9 Cable

Gateway

- 1 per facility collects data from all press modules installed via RF transmissions
- Power supply (US/International) and CAT5 Ethernet cable included
- Accesses the internet via cellular technology
- Sends data to the customer's web portal every 15 minutes

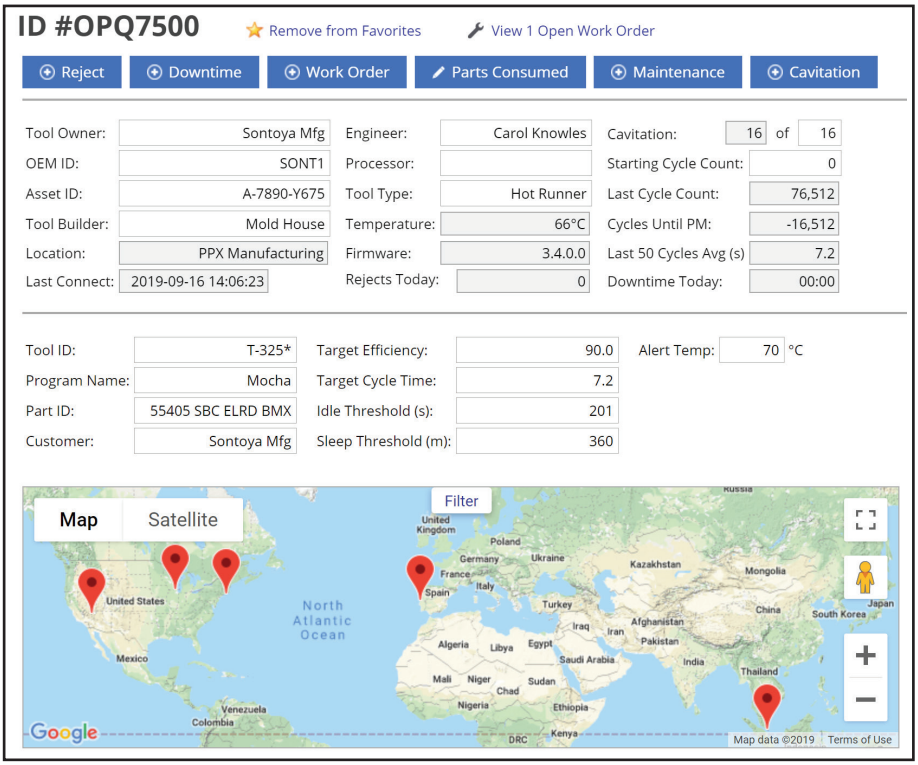
CVe Live Website Features:

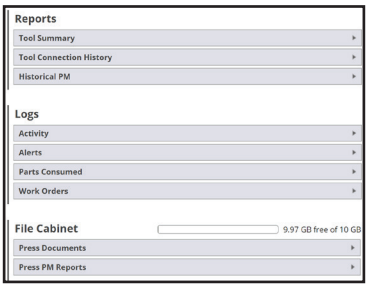
- Secure access for OEMs and moulders, set up at the time of installation of the CVe Live hardware.
- The Tool Dashboard gives users information at either the enterprise or plant level and allows for drill down into specifics on each tool.
- A Press Dashboard provides an overview of manufacturing operations. The dashboard displays 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 for cycle times, efficiencies, cavitation, and production loss, and also preventive maintenance, can be shown and saved.
- Plant exceptions screen shows any out-of-tolerance conditions.

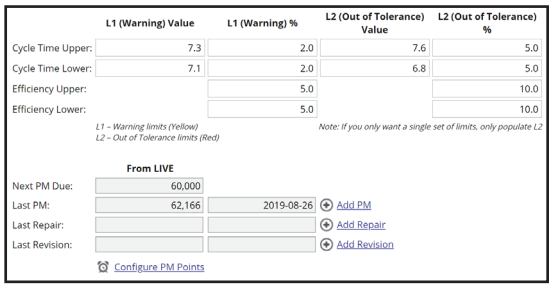


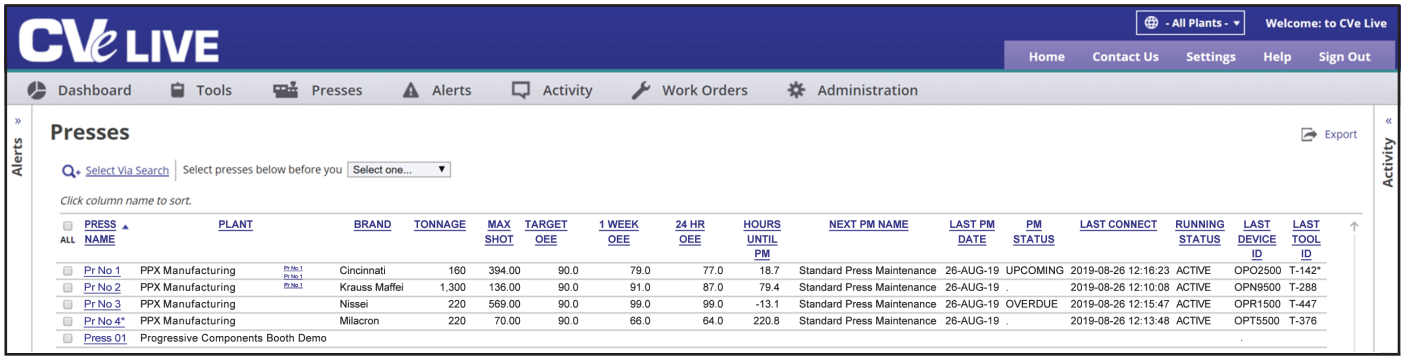
PROGRESSIVE COMPONENTS

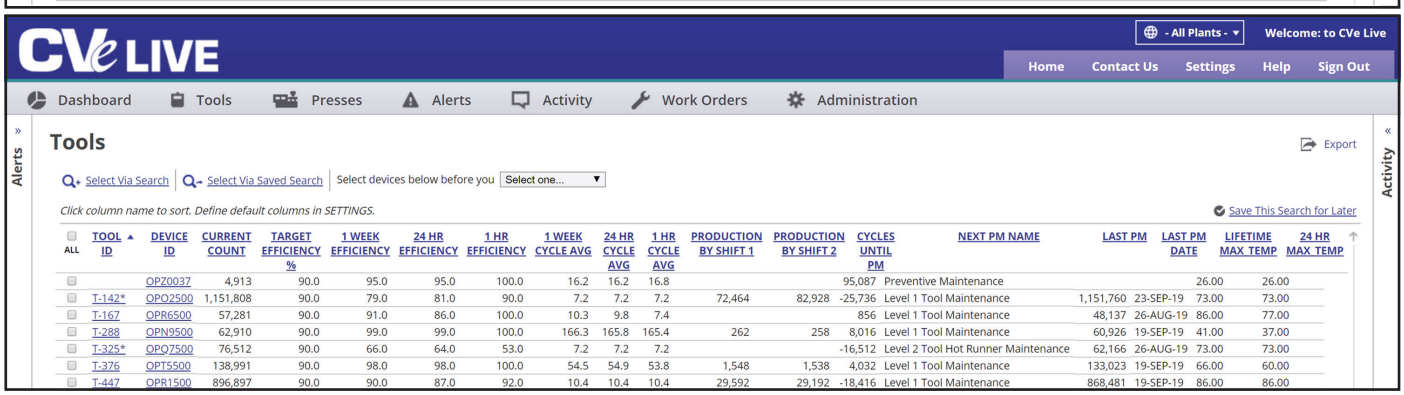
- PM Function allows for user-defined PM stops (Incremental or Absolute). The user can also create or customise PM forms and checklists for a specific maintenance program.
- Work Order function allows users to create work orders for moulds, machines, or other assets.
- GPS tracking allows for users to view the location of all tools. This feature is ideal for managers that are tracking multiple facilities or global operations.
- Administration and security levels are controlled by the user, and access can be given to subcontractors to upload information or to initialise the CVe Monitors to begin submitting data.
- The file cabinet system is designed to store reports, tool and part drawings, and set-up sheets and can be utilised by customers with the CVe Live system installed, or by those using OnDemand who are looking to have or give global access to tool information.
- An automated Data Exporter allows users to schedule data exports from many pages within CVe Live. Data will automatically download to a specified location, in Excel or json format, where it can then be imported to other in use systems.
- OEE is calculated independently for the both the press and the tool. This allows tooling and manufacturing operations to have separate OEE calculations to distinguish between equipment and tooling issues.







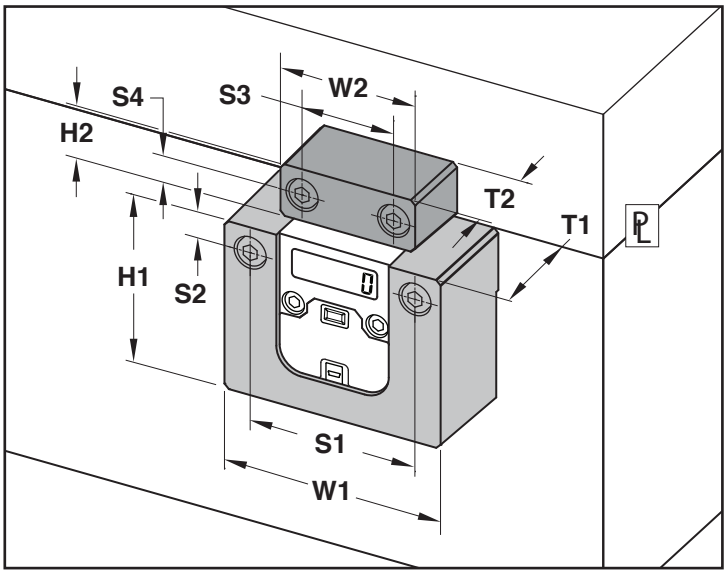




INSULATOR BLOCK ASSEMBLY

Progressive's Insulator Block protects the CounterView and CVe Monitor to enable moulders to view cycle counts and additional information on higher temperature tools.

- Maximum temperature: 180°C/360°F



CATALOGUE NUMBER	DESCRIPTION	H1	W1	T1	S1	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

Application Guidelines:

- 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.
- Position the Insulator Blocks at parting line and install screws as shown above.
- The Inch or Metric Insulator Block assembly accepts the screws from the square CounterView sold on page A-10 or the CVe Monitor sold on page A-1.

PROGRESSIVE COMPONENTS

SA Patent A2017/01117