

Confluent™ IPV*

- 5 – 20 times longer life than typical Glass Barrel/ Teflon Syringes with Kel-F/Teflon plug valves
- Direct, plug-in replacement for existing syringes and valves on Cavro XP-3000 syringe pumps
- Identical Accuracy and Precision as typical syringes and valves
- Significant lifetime costs savings
- No routine maintenance required
- Optional Seal Wash versions available to help extend life with difficult fluids
- Made of durable, chemically resistant materials

In terms of precision and accuracy, the Scivex™ Confluent IPV (Integrated Pump & Valve) is indistinguishable from traditional glass barrel/Teflon® syringes with Kel-F®/Teflon plug valves (See Figure 1.).

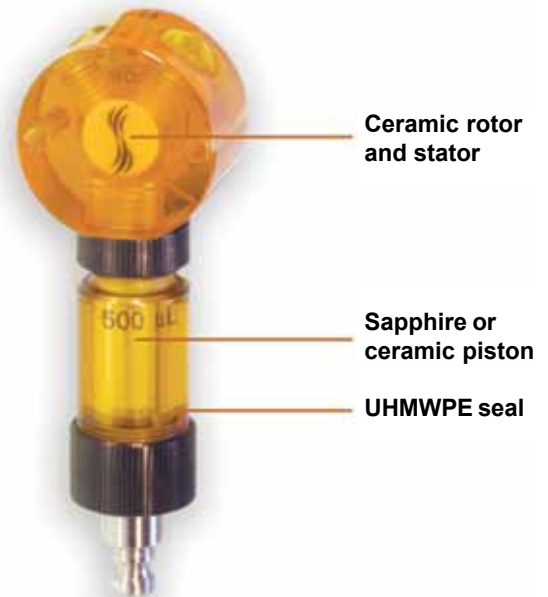
So what's the big difference?

The Scivex Confluent IPV will outlast traditional syringes by as much as 20 fold, yielding major lifetime cost savings (See Figure 2). As a bonus, you save even more on downtime and upkeep because the Confluent IPV requires no routine preventive maintenance such as cleaning and nut tightening essential with conventional syringe pumps. By selecting the seal-wash option, you can extend Confluent IPV life even longer.

And how did we bring about such dramatic savings?

First, we use cutting-edge piston technology to pump fluid via positive displacement in lieu of a traditional syringe. Second, we incorporate a ceramic-on-ceramic shear valve instead of the more common plastic plug valve. These innovations coupled with our proprietary surface finishing processes on the ultra-hard piston, rotor and stator surfaces, mean significantly less wear, less downtime and a reduced cost of ownership (See Figure 3).

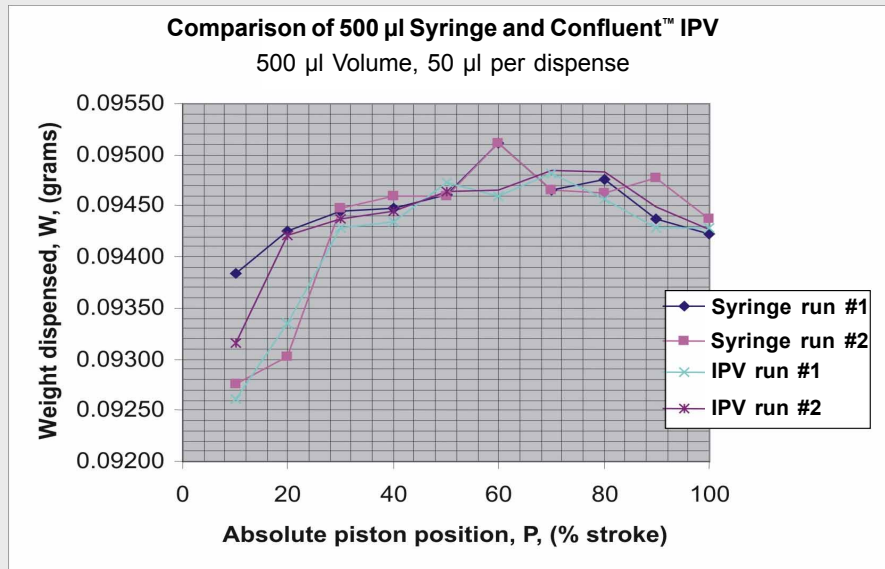
* Patent Pending



Cavro™ is a Trademark of Cavro Scientific Instruments, Inc.
Kel-F® is a Registered Trademark of the 3M Company
PEEK™ polymer is a Trademark of Victrex plc
Perlast® is a Registered Trademark of Precision Polymer Engineering Ltd.
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Teflon® is a Registered Trademark of E.I. du Pont de Nemours and Company
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Figure 1: Dispense Precision and Accuracy

As this graph and data indicate, the Confluent™ IPV compares favorably with a standard Cavro-mounted syringe – both well under 1 percent Change in Volume (CV).



Backlash Compensated Precision Data

	Syringe run #1	Syringe run #2	IPV run #1	IPV run #2
% C.V.	0.30%	0.62%	0.46%	0.25%

Figure 2: Lifetime Cost Savings with Scivex Confluent IPV compared to a Typical Syringe

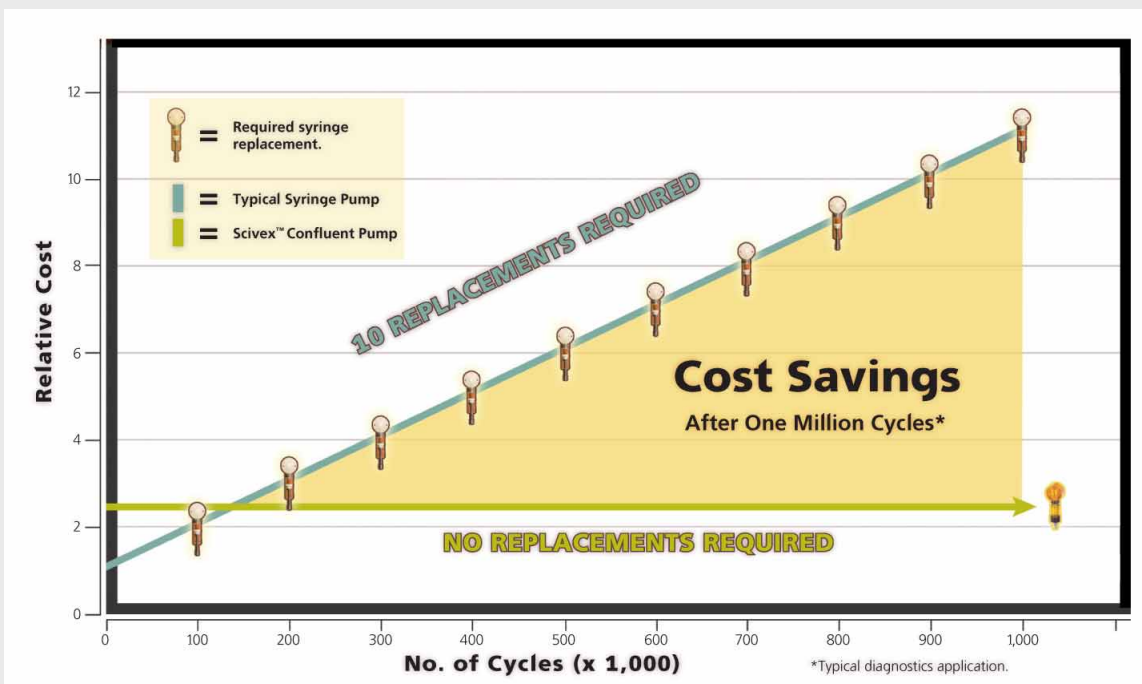


Figure 3: Life Tests and Specifications

Internal Life Testing Results

Seal Life	3 million cycles*
Valve Life	8 million cycles*

* Tested with room temperature deionized water at 100 psi back pressure. Seal life can be extended even further with optional seal wash.

Specifications by Part Number

IPV part #	Full Stroke Volume ¹	Valve Type	Piston Material	Head/Body Material ²	For Driver:
98-4725-15	15 µl	3 way Ceramic	TZP Ceramic	Ultem™	Cavro™ XP-3000
98-4725-50	50 µl	3 way Ceramic	TZP Ceramic	Ultem	Cavro XP-3000
98-4725-100	100 µl	3 way Ceramic	Sapphire	Ultem	Cavro XP-3000
98-4725-250	250 µl	3 way Ceramic	Sapphire	Ultem	Cavro XP-3000
98-4725-500	500 µl	3 way Ceramic	Sapphire	Ultem	Cavro XP-3000
98-4725-1000	1.0 ml	3 way Ceramic	Sapphire	Ultem	Cavro XP-3000
98-4728-2500	2.5 ml	3 way Ceramic	TZP Ceramic	Ultem	Cavro XP-3000
98-4728-5000	5.0 ml	3 way Ceramic	TZP Ceramic	Ultem	Cavro XP-3000

¹ 3 cm stroke length

² Other materials available upon request - please see below

Custom Material Options

Valve head, pump body	Ultem, PEEK™, glass (pump), stainless steel or Kel-F®
Rotor/Stator	TZP (Zirconia) ceramic
Piston	Sapphire or TZP (Zirconia) ceramic
Seal	UHMWPE
Seal Energizer	Viton™, Perlast®, Teflon® or Hastelloy

For more information, including prices, custom volumes and pumps for other drivers, please contact SEI at 508.563.5531.