



- High impact power
- Low energy consumption
- Supreme silo emptying
- Rubber hammer effect option
- Automatic self-control option
- High temperature option
- Available in ATEX

PKL pneumatic Impactors offers the premium and economic emptying of all types of silos and hoppers.

These Impactors is mounted on the outside of the hopper or silo, and will prevent bridging and rat holes in the emptying of all types of materials and products.

PKL Impactors is easily integrated with existing production controls, or we can offer a complete timer control



PKL 190



PKL 450



PKL 5000

PKL Pneumatic Impactors

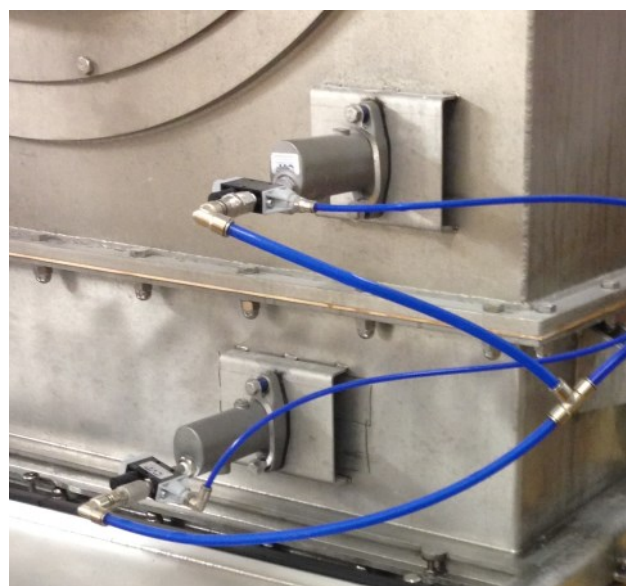
Technical Specifications

Impactor	Piston weight [Kg.]	Operation Pres- sure [bar]	Impact force* [Kg.]	Air consumption per Impact [NormalLiter]	Total weight [Kg.]	Silo wall thickness [mm]
PKL 190/4	0,19	4,0	0,43	0,20	0,8	1 – 2
PKL 190/6	0,19	6,0	0,60	0,20	0,8	1 – 2
PKL 450/4	0,44	4,0	0,56	0,40	1,6	1 – 3
PKL 450/6	0,44	6,0	0,92	0,60	1,6	1 – 3
PKL 740/3	0,74	2,9	1,30	0,50	2,6	2 – 4
PKL 740/4	0,74	4,1	1,80	0,70	2,6	2 – 4
PKL 740/5	0,74	4,7	2,10	0,80	2,6	2 – 4
PKL 740/6	0,74	5,9	2,70	1,00	2,6	2 – 4
PKL 1000/4	1,00	4,0	2,80	2,70	5,70	2 – 4
PKL 1000/6	1,00	6,0	4,30	4,00	5,80	2 – 4
PKL 2100/4	2,10	3,7	4,20	5,20	6,7	3 – 5
PKL 2100/5	2,10	5,5	6,20	6,50	6,9	3 – 5
PKL 5000/4	4,96	4,0	6,60	5,70	16,0	4 - 8
PKL 5000/4 S	4,96	4,0	6,60	5,70	16,0	4 - 8
PKL 5000/6	4,96	4,0	10,60	8,60	16,0	6 - 12
PKL 5000/6 S	4,96	4,0	10,60	8,60	16,0	6 - 12
PKL 10000/6	10,00	6,0	17,50	15,10	34,0	> 10

*The impact corresponds to the effect of the given weight, when dropped from a height of 1 meter



PKL 450 ATEX installed in pharmaceutical industry

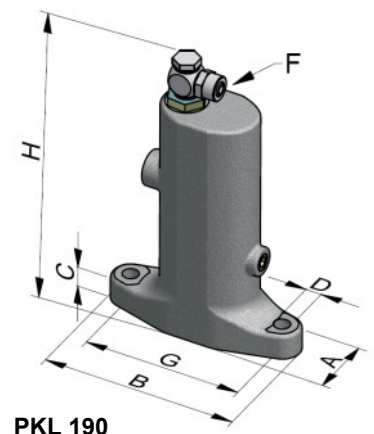
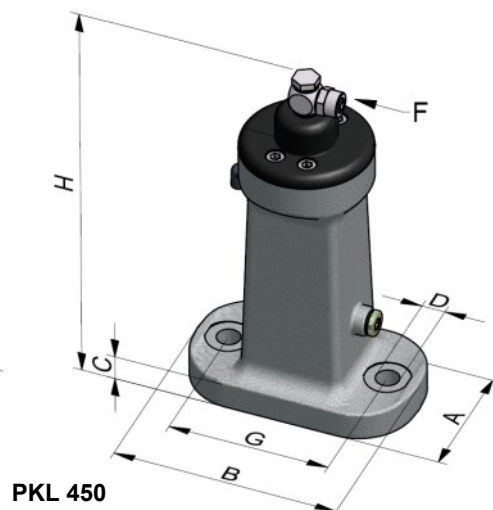
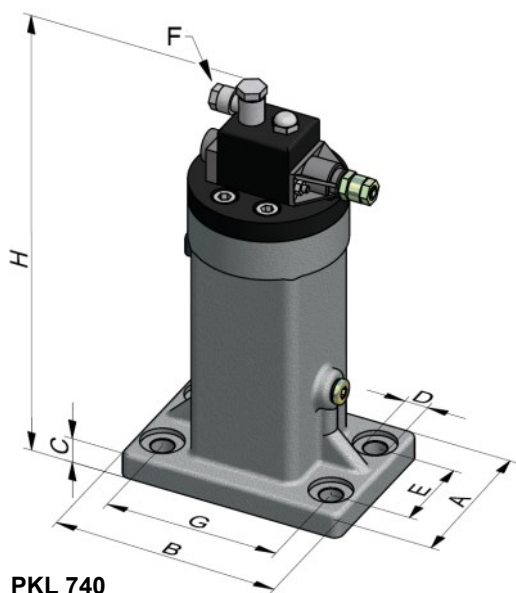
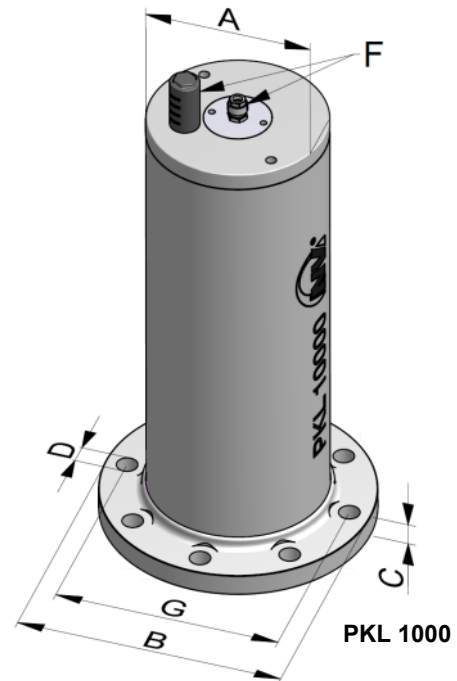
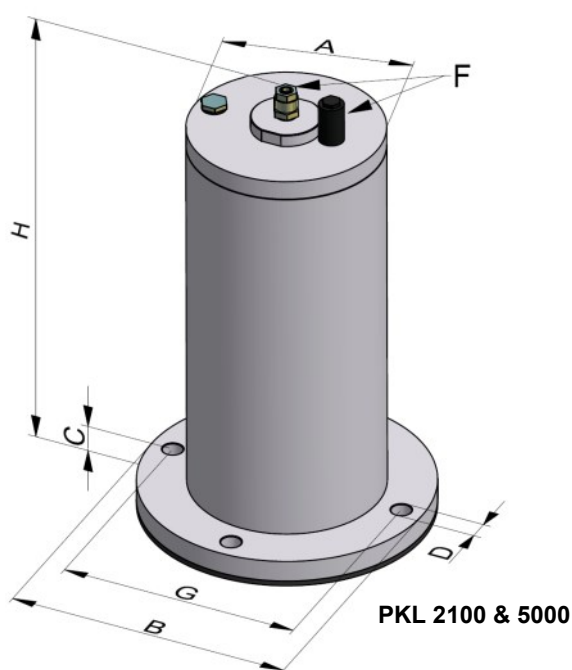


PKL 190 installed in milk powder production

PKL Pneumatic Impactors

Dimensions

Impactor	A [mm]	B [mm]	C [mm]	Ø D [mm]	E [mm]	F	G [mm]	H [mm]	H with EE [mm]
PKL 190	38	111	15	9,0	-	1/8"	90,0	163,5	169,5
PKL 450	73,5	126	14	13,0	-	1/8"	90,0	192,0	200,0
PKL 740	90,5	140	19	12,5	50	1/8"	100,0	238,5	248,5
PKL 1000	Ø 88,9	Ø 140	13	13	-	1/8"	Ø 116	266,0	-
PKL 2100	Ø 120,0	Ø 180	17	13,0	-	1/8"	Ø 152	301,5	-
PKL 5000	Ø 114,3	Ø 180	22	17,0	-	1/8"	Ø 152	376,5	-
PKL 10000	Ø 145,0	Ø 220	25	17,0	-	1/8"	Ø 185	445,0	-



PKL Pneumatic Impactors

Applications:

Knocking off adhering products, cleaning off silo walls, pipes, weighing machines, filter drain and bridge building products, for example. hopper outlet. Operating temperature from -30 to +160 ° C.

Design & Function

A piston is driven by compressed air against the springs. By venting the valve of the compressed air, then strikes the piston against a strike-disc, and the outflowing compressed air is fed into the chamber above the piston activated by a diaphragm valve. From there, the compressed air flows out slowly between the cover and the housing.

The supplied compressed air is also controlling the start & stop function, operated by a 3/2-way solenoid valve.

Multiple PKL Impactors can be operated simultaneously through a single valve.

Frequency

PKL Impactors stroke frequency can be adjusted by throttling the supplied compressed air pressure, however it must not exceed the Impactors recommended maximum air pressure.



PKL 740 fully installed with EE, ST, NBS and ASB welding bracket



PKL 2100 with ASB bracket installed on a silo outlet

Configuration

- PKL Impactors comes as default to only trigger a single hit when activated. With ST self-control the Impactors will hit continuously as long as it is activated with compressed air.
- PKL Impactors comes as default to hit the steel piston against the mounting surface, but with an EE damper kit between the Impactors base plate and mounting surface, the Impactors will perform with effect like a rubber mallet, and thereby reducing the noise level considerably.
- We recommend to install the PKL Impactors with a NBS mounting kit, which provide a significantly better lifespan for the Impactors.
- PKL Impactors should be operated with a 3/2-way solenoid valve, which can be electrically, pneumatically or manually controlled, in many cases, the operation is controlled by an electric 24V. or 230V timer-control.
- The supplied air pressure is recommend connected with $\varnothing 8 \times 1 \text{ mm}$. approved air hose, and adjusted with a filter regulator with lubricator, which also allows you to adjust the stroke rate by throttling the pressure.
- We can offer complete control solutions as well as all types of pneumatic fittings for your needs

PKL Pneumatic Impactors

Accessories

Operation control

PKL Impactors has to be operated with a 3/2-way solenoid valve which may be electrical-ly, pneumatically or manually controlled, in many cases, the operation is also controlled by an electric timer-control unit for automation.

Supplied compressed air is recommended to be adjusted with a filter regulator with a lubri-cator, which also gives the option to adjust the stroke rate by throttling the pressure.

We can offer such complete control solutions as well as all types of pneumatic fittings and air handling equipment for all PKL Impactors.



Continuously strokes

PKL Impactors can be fitted with the option for self-control (ST-Kit), which ensure continu-ous strokes sequence when activated by a solenoid valve.

At the option of self-control stroke, the frequency can be adjusted by throttling supplied compressed air pressure, however, it must not exceed the Impactors recom-mended maximum air pressure



Rubber Hammer Effect

With a EE damper kit is the noise levels lowered significantly and the PKL Impactors have the effect like a rubber mallet.

EE damper kit consists of an aluminium plate with a removable core of elastomer, which is mounted between Impactors base plate and the flat piston of the PKL 190, 450 and 740 while other larger Impactors is supplied with a build-in elastomer impact plate.



Mounting kit NBS

For the best and secure mounting of the PKL Impactors, we recommend to use a NBS kit, which consists of a damping spring, a steel washer and a bolt. Whereby the Impactors recoil is dampened, and gives the PKL Impactors a longer life span



Weld-on Bracket ASB

For the best possible mounting on silos and hoppers.

We recommend PKL Impactors is mounted on a welded bracket, which ensure the instal-lation site against fatigue failure and a good distribution of the impact force on a larger area.

ASB weld fittings are available in stainless steel AISI 304 or St. 37



Insulation Hoods

The use of hoods is particularly worthwhile for bunkers with insulation covers.

Attaching the insulation hood to the insulation cover fully insulates the source of the noise (bunker).



PKL Pneumatic Impactors

Timer Control Unit

We can offer electrical and pneumatic timers for automatic time control for the PKL Impactors, which provides a precise control for start & stop activation. These timer control units are available for 24V and 230V and used for the control of a solenoid valve.



Vacuum Fixing Device VAC

Sometimes a more flexible solution is required for mounting the PKL Impactors, and this can be offered in combination with our great vacuum fixing device VAC. The pneumatically driven VAC offers a quickly and efficiently option for repositioning the Impactors to different locations, and the vacuum suction is easily attached to most types of surfaces, even curved and uneven surfaces. The VAC fixing device can also be offered as ATEX or stainless steel. Please request more information for VAC vacuum fixing devices.



Optional Versions

The PKL Impactors can also be offered for special requirements and applications.

PKL E (ATEX) can be supplied in accordance with 94/9/EC directive II 2G and 2D 85 ° C (T6) in zones 1, 2, 21 & 22

PKL S (Stainless Steel) is designed for use in the food and chemical industries with good resistant surfaces.

PKL HT (high temperature) can be provided for the use of temperatures up to 160 ° C



PKL 240 HT is mounted on a large filter, at a power plant



PKL 190 with self-control (ST Kit) mounted on a metering station for powdered materials



PKL 450 mounted on the cone of a granulate hopper



multiple PKL 740 with self-control (ST-Kit) mounted on cement powder hoppers

PKL Pneumatic Impactors

Recommendations for installation and operation of PKL Impactors

Follow these advices, and the commissioning will be completely seamless

Start & stop activation

Always use a solenoid valve for start & stop activation of PKL Impactors.

We can on request provide the necessary 3/2 way solenoid valve for activation with compressed air - 24V DC - 230V or manual operation. There should not be more than 15 meters air hose between the solenoid valve and PKL Impactors.

The pressure

PKL Impactors must always be operated with the correct set pressure, otherwise it will not start.

On the side of the Impactors mounting plate, are stamped a number from 3 to 6 in a ring, which shows how many bar pressure as it should be operated.

The pressure should be set with a locally installed filter regulator, to ensure the correct pressure.

We can on request provide filter regulators.

Compressed air

Air quality and purity has great influence on PKL Impactors function and longevity.

Even if the customer has a good quality air, so we always recommend installing a local filter regulator, as always to ensure correct pressure and filter dirt particles away.

We can on request provide filter regulators.

Continuous stroke

PKL Impactors will by default on delivery, only hit once for each activation.

With ST self-control, the PKL Impactors will hit continuously one stroke per second as long as there is air activated.

ST self-control can on request be installed by CVP at delivery, or can easily be installed by the customer later.

Rubber hammer effect

PKL Impactors is by default on delivery, hit its piston of steel against the mounting plate.

With an EE damper kit between the mounting surface and the Impactors base plate, achieved the same impact energy as a rubber mallet, and reduce the noise level.

Air pressure hose

PKL Impactors is driven by the energy of compressed air.

The compressed air should always be supplied to the Impactors with a ø8 mm. approved compressed air hose.

We can on request provide compressed air hoses in all diameters and lengths.

Brackets

To prevent damage to the installation site, it is very important to weld a bracket on site. It also ensures a better distribution of the impacts for a larger area.

The bracket mounting surface must be perfectly level to ensure a tight seal for the O-ring underneath the Impactors base plate. If the O-ring seal is not completely pressure-tight, then the PKL Impactors can not be started.

We can on request provide properly sized welding fittings to suit most applications.

Maintenance

PKL Impactors will eventually be worn, and reduce stroke effect.

Impactors should hit approx. 300,000 hits without problems, or 2-3 years of normal operation.

For every 300,000 strokes or if observed reduced effect, you should replace the designated spare parts, ensuring many years of effective use of interval hammer.

We can provide all assigned spare parts for replacement, or the customer can return the worn PKL Impactors to CVP, for the proper replacement and service.

Lubrication

PKL interval hammer can be operated with dry compressed air.

However it is recommended to lubricate the compressed air moderate, as the PKL Impactors contains mechanical moving parts, and that it will extend the longevity for the PKL Impactors significantly.

We can on request provide good lubricators and filter regulators

If you have further questions about installation or operation of PKL Impactors, please do not hesitate to contact us!