

Product Series
Piercing and Forming Units / Cams

 **KALLER**[®]

The Safer Choice

Flex Cam[®]



Would you like to order this product?
All available information at www.kaller.com.

Introduction

The Flex Cam can be used for piercing, cutting, forming and flanging operations.

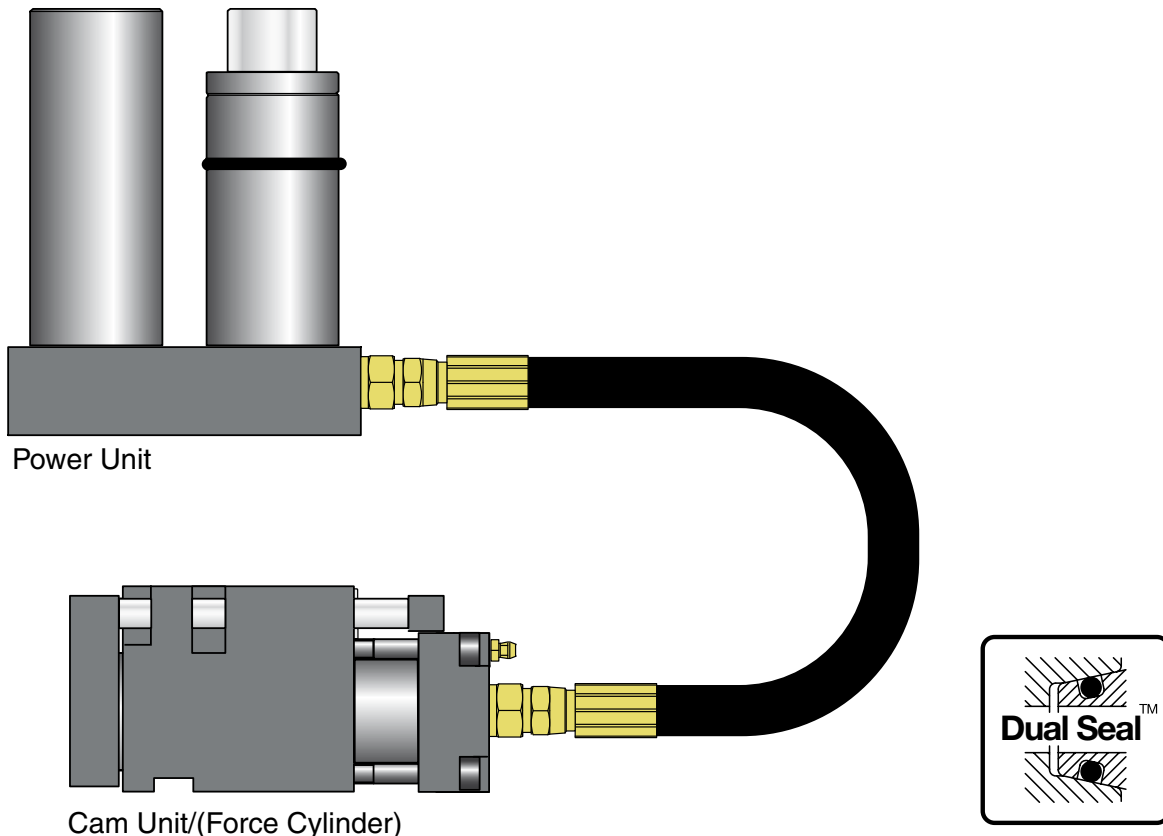
The system enables flexible distribution of forces with optimal direction and velocity during the operation. Cam Units or Force Cylinders can be interconnected to simultaneously perform multiple operations with the same tool. Often by using a Flex Cam, fewer tools are required in production.

The system comprises a hydraulic Power Unit, Cam Unit/Force Cylinder and interconnecting hoses.

Cam Units are used mainly for piercing operations, while Force Cylinders are used to drive tooling components such as flanging steels or forming punches.

The Flex Cam is available with the following forces: 15 kN, 40 kN, 60 kN, 90 kN and 150 kN, and with the following stroke lengths (S): 25, 50, 100 and 150 mm.

The system below consists of a Power Unit and a Cam Unit. On the front face of the cam unit is a punch plate, on which different punches can be mounted. The punch plate is made of unhardened steel to simplify drilling and tapping.



Installation examples

Piercing 6 holes

This application uses an hydraulic cam system mounted upside down in the upper tool. The Cam Unit (1) is mounted on a floating die (2). The floating die is centered relative to the lower die using conical pillars, while the die is backed up by springs. As the press moves downwards, and the floating die is centered, the Power Unit (3) is activated and the holes are punched.

Prior to the installing the hydraulic cam system, the holes were punched at a right angle using oval shaped punches.

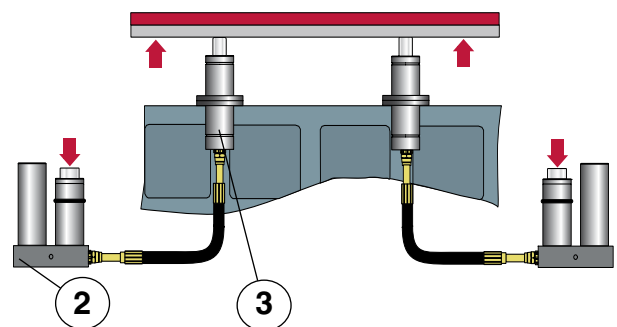
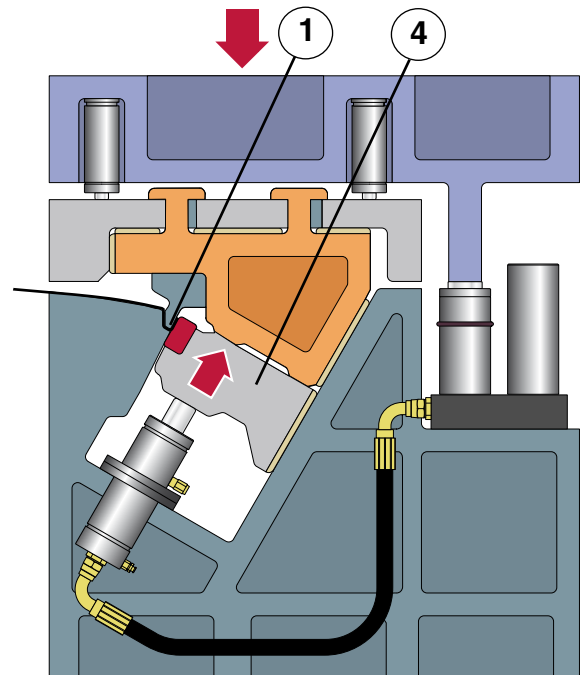
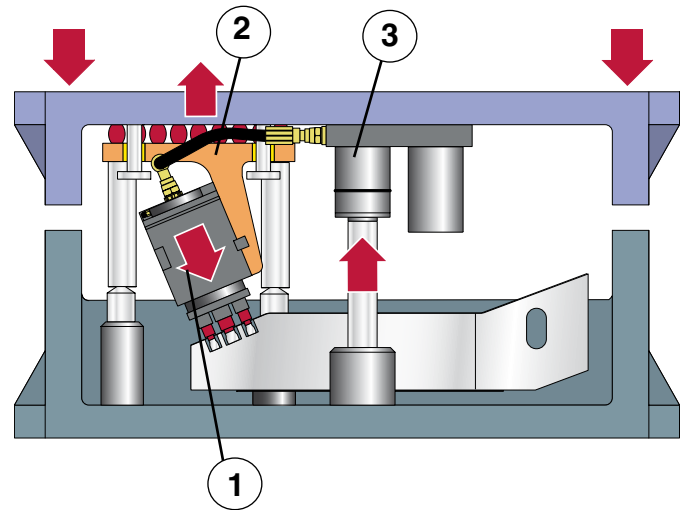
The production and quality enhancements achieved by installing the Flex Cam, has paid off the investment, including installation, in only three months.

Flanging a wide edge

In this tool, two Force Cylinders are used to drive 800 mm wide flanging steel. As seen in the picture, flanging (1) is performed at an angle opposite to the direction of the press motion.

To ensure parallel movement at both ends of the flanging steel, two separate cam systems are used. Each system contains a Power Unit (2) and a Force Cylinder (3).

The flanging steel (4) is guided optimally in the tool, while the Force Cylinders are only subjected to axial forces. Using the Flex Cam has simplified the tool design and consequently it has also reduced the tooling cost.



The Safer Choice

Introduced in 1983, the KALLER gas spring technology quickly led to world-wide demand. The Safer Choice - Training, Safety and Reliability - has always been a KALLER top priority for providing the safer working environment. We recommend looking through all available KALLER features when selecting gas springs and gas or hose linked systems.



KALLER Training Program

TRAINING. Without doubt the KALLER Training Program is the best and most creative way to fully understand and appreciate the importance of the safety and reliability features.



PED approved for 2 million strokes

RELIABILITY. Our 2 million stroke PED approval ensures safer component cycle life.



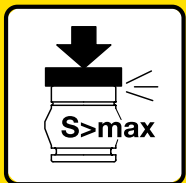
Flex Guide™ System

RELIABILITY. Prolongs service life, allows more strokes per minute, and offers greater tolerance to lateral tool movements.



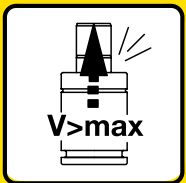
Dual Seal™ Link Systems

RELIABILITY. Fewer production interruptions due to leakage caused by vibration. Simplified installation thanks to the non-rotation feature.



Over-Stroke Protection System

SAFETY. When a gas spring is over-stroked, this helps reduce the risk of tool damage or injury.



Overload Protection System

SAFETY. Jammed cam or tool part being forced by gas springs? This will help reducing such risks.



Overpressure Protection System

SAFETY. Vents the spring if the internal gas pressure exceeds the maximum allowable limit to prevent accidents.