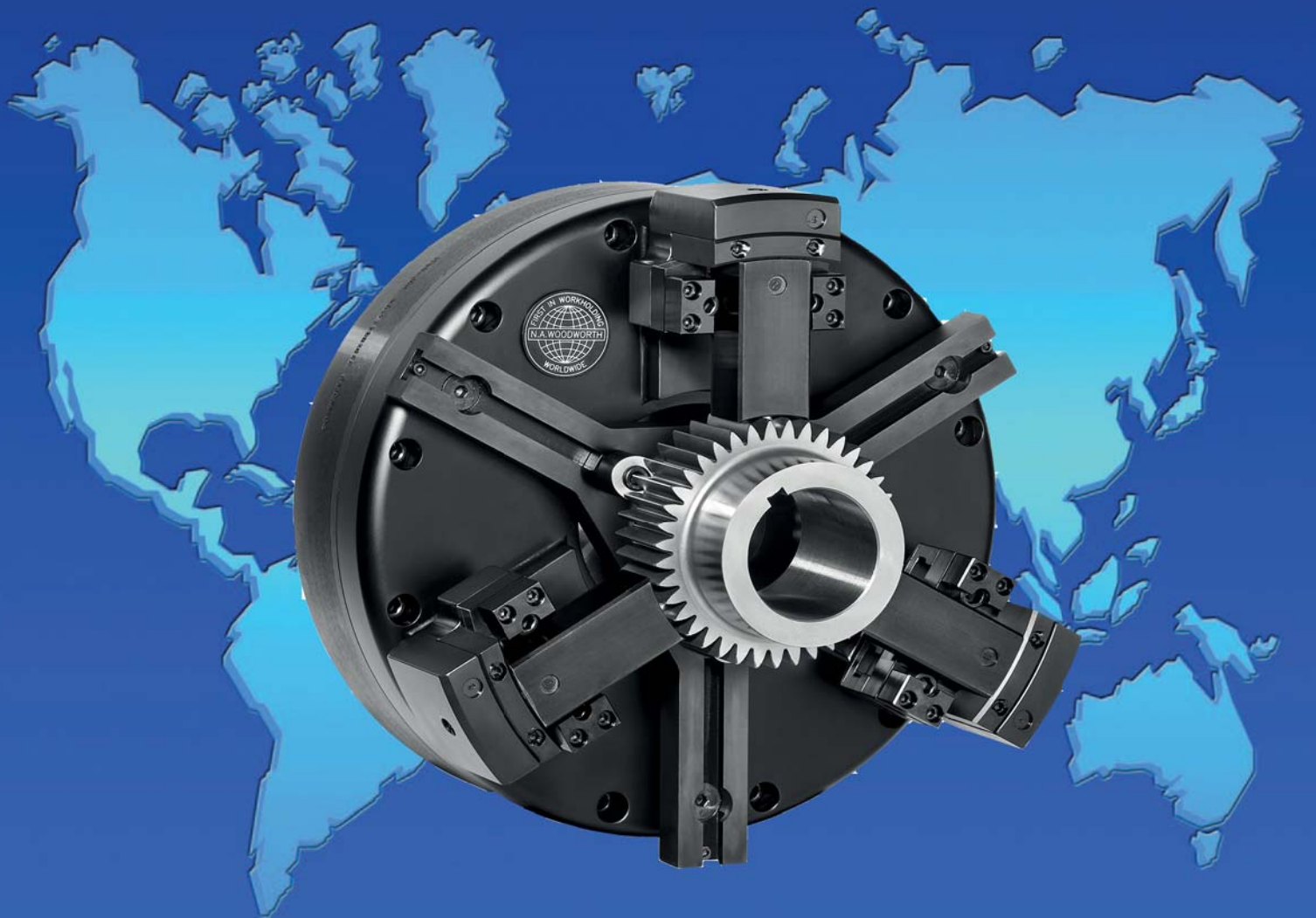


# FORKARDT

## Pitch-Line Diaphragm Chucks



## Diaphragm Principle

**SIMPLICITY** . . . Similar to the action of an oil can bottom! No sliding parts. No friction. No wear. Simple flexing action only. Diaphragm chucking assures **consistently controlled concentricity**.

The diaphragm principle as applied to chucking utilizes the inherent strength and accuracy of spring steel to achieve chucking pressure on internal or external surfaces.

Diaphragm chucks are primarily for second operations, such as grinding, boring, facing, and light turning. Locating surfaces should be premachined or precision cast surface.

### How a Diaphragm Works

Air is introduced through the spindle adapter plate by means of a pipe. When air pressure is applied, the piston moves forward and the movement is transmitted to the diaphragm by a push sleeve. As the diaphragm is flexed the jaws open and the workpiece is loaded. To chuck, the air is turned OFF and the jaws move toward the relaxed position until they contact the part. The part is located on center.

## Pitch Line Diaphragm

The “Quick-Pitch” PLD Diaphragm is designed specifically to provide quick and accurate part changeovers in a simple and economic manner. Aimed primarily at gear families, the chuck also has applications in hard turning and grinding applications, where repeatability, interchangeability and roundness are a concern.

The key to the operation is the simplistic locating wedge pin design, with each pin set in a jaw that snaps into place to orient and accurately locate each individual pin’s position relative to the master jaw set. Two half-turn clamp screws securely lock and hold the jaw in place, and just as easily the jaws are released, removed, changed over, and retightened with no additional adjustments or setup procedures required. The pins are nitrided to provide a hard, long wearing surface area for greater service life.

The PLD also features a sealed design to withstand harsh work environments, including grinding sludge and coolants. Further, the diaphragm mechanism means no sliding parts that can become contaminated, all resulting in minimal maintenance requirements. Optional synchronizing pins are available to facilitate auto-load operations.

Four models are available spanning pitch diameters from 25mm to 350mm with three and six jaw systems.

### Features

- Jaw change in 60 seconds
- Accommodates any number of gear teeth
- Compliance for tooth space variation
- Optional synchronizing pins for autoloading
- Standard “Pull-Back” action
- Centrifugal force compensation for higher speeds
- Minimal maintenance- no sliding parts
- Lightweight assembly

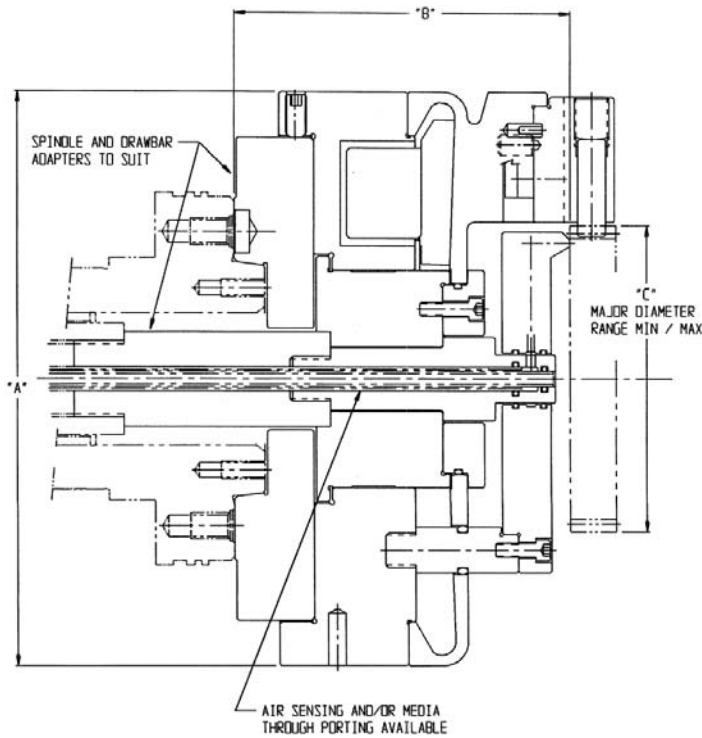
### Ideal For:

- Gear families including Sun, Ring, Piston, Output, Spur and Helical gears
- hard turning and grinding applications

The PLD chuck complements Forkardt’s other gear workholding systems, including the Universal Gear modular gear chucking system that adapts to many different gear configurations, requiring minimal tooling. The UG chucks are ideal for longer run applications with infrequent changes. Additional gear holding systems are available on application.

As we are constantly striving to improve our products, the dimensions and specifications in this catalog cannot always represent the latest state of our products; they are, therefore, given as an indication only and are not binding.

## “Quick-Pitch” Pitch Line Diaphragm Chuck



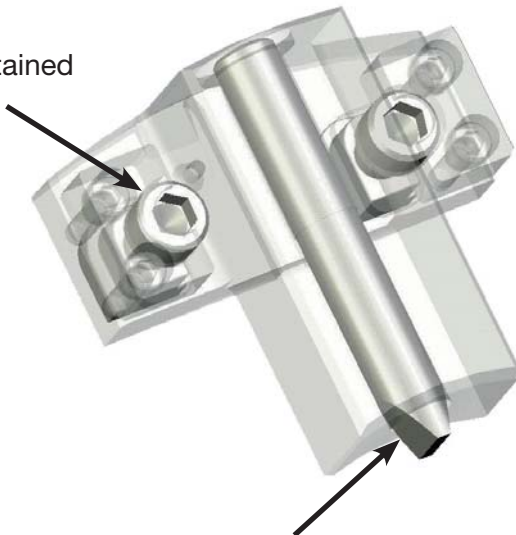
MODEL	A*	B	C	# JAWS
PLD-180	180	115	25-100	3
PLD-250	250	140	100-170	3
PLD-350	350	165	170-250	3
PLD-450	450	190	250-350	6

Gear pin holder supplied in sets of (3) or (6)  
 Syncro pins available for auto-load assist  
 Values are approximate

### “Quick-Pitch” Jaw with Fixed Length Gear Pin

Fixed length gear pins extend from the “pitch diameter” of the gear to the master jaw diameter of the diaphragm. The pins extend through the jaws so the interchange accuracy of the jaws is not important.

1/2 Turn Retained  
 Screws



Gear Pins are Retained Firmly in Jaws with “O” Ring (not shown).

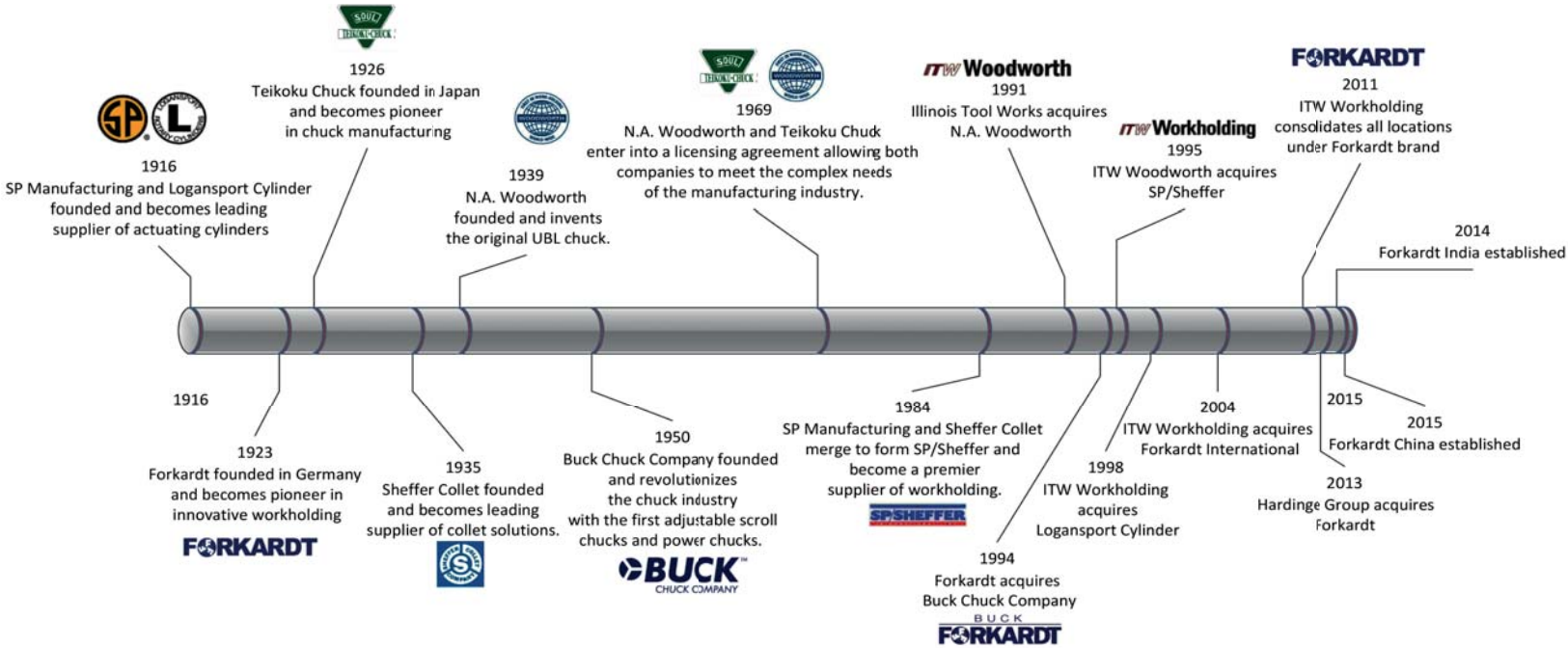
Gear pins are replaced by simply pulling the old pins out and sliding the new pins into the jaws. **NO** adjustment required



Fixed length gear pins, uniform in lengthly within .0002”  
 Contact on the P.D. of the gear

# FORKARDT

## OUR BRANDS



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