



Diaphragm Chuck



PIONEER Diaphragm Chuck is basically to clamp the workpiece “Soft” and “Evenly” to avoid the distortion by utilizing the tensile strength of special material used for Diaphragm and jaw, and thus to achieve the highest possible accuracy in turning field. It is also designed not to be affected by the centrifugal force at high speed, and can be used up to $10,000\text{min}^{-1}$ or over. It ensures super high precision and stable turning operation.

● Repeatability

Below 0.4 micron ($0.000015''$) guaranteed.

● Maintenance Free

No Lubrication Necessary.
Chuck is completely sealed.

● Flex. Clamping Power

For both OD & ID clamping, fine adjustment of clamping power is possible.

● Excellent High Speed Capability

3" and 4" chucks can be used at $10,000\text{min}^{-1}$ or over due to unique counter-weight balance incorporated.

● High Durability

Long life of rigidity and accuracy is insured due to unique diaphragm material.

● Flex. Application

Both OD & ID clamping is possible with one chuck, and workpiece support can be arranged flexibly.

Work Example



- Hard Disk Drive Motor Parts
- Motor Parts for OA Equipment
- VCR Drum
- Parts for Space & Comm. Equip.
- Automobile Parts.
- DVD Parts
- Medical Equipment.



- High Speed Turning
- Mirror Machining
- Assembly Machining
- Grinding
- Measuring



4HN6-3

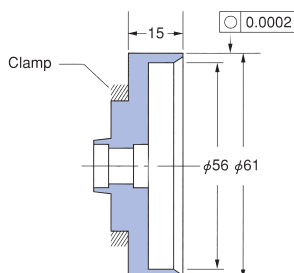
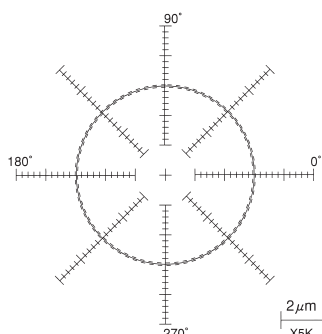


3HN6-3



4/5HN8-3

Example of Application



Chuck : 4HN8-3
Workpiece : VCR drum
Material : Aluminium
Spindle RPM : $8,000\text{min}^{-1}$
Clamp : O.D. Clamp

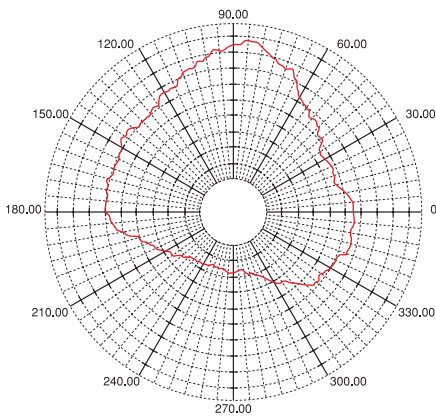
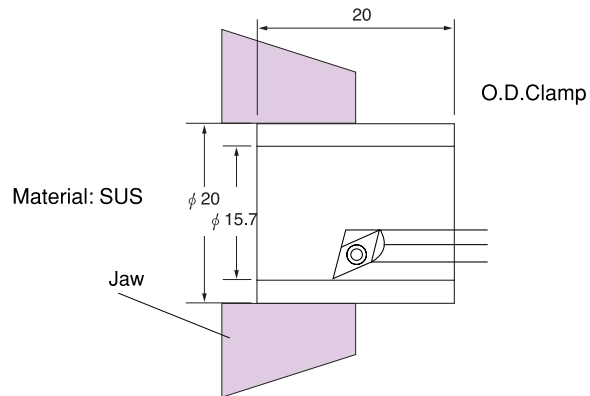
roundness **0.2 μm**



Diaphragm Chuck

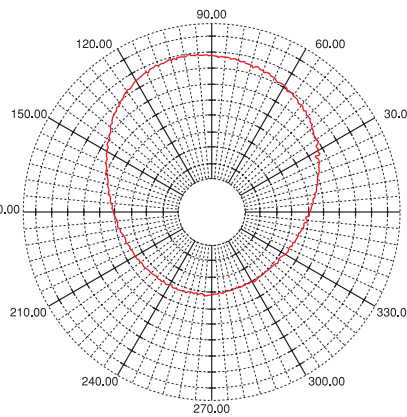


Comparison Against Other Chucks



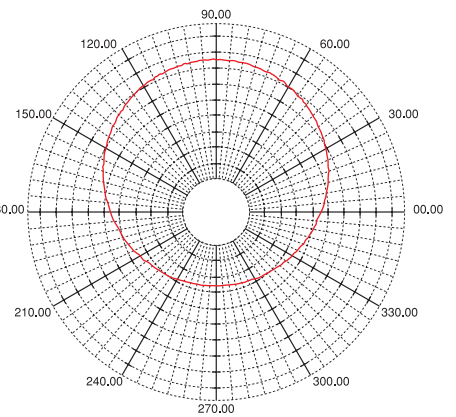
Hydraulic Chuck 6"

Roundness $12\mu\text{m}$



Precision Air Chuck 6"

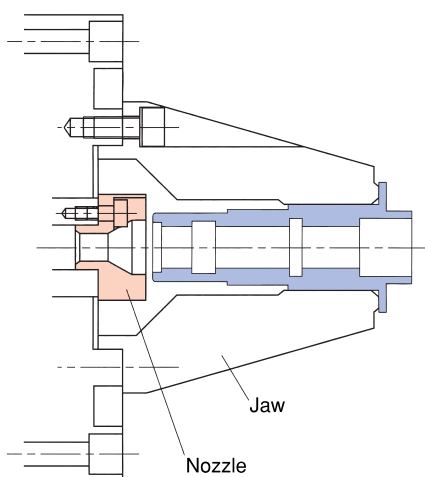
Roundness $3\mu\text{m}$



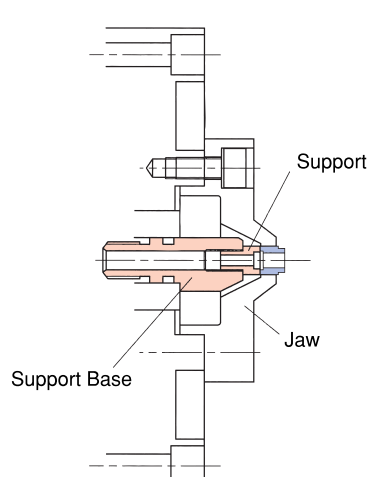
Diaphragm Chuck 6"

Roundness $0.3\mu\text{m}$

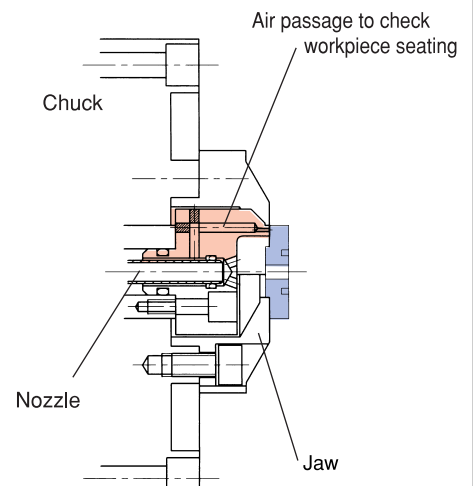
Example of Application



Injection Nozzle for Automobile



HDD parts



Automobile parts

* Please contact us for more detailed catalog. If you send us the drawing of a part with description of your problem and what you want to accomplish by our Diaphragm chuck, you will receive our suggestion for solving your problem within 5 working days.