Precision Air Chucks

NORTHFIELD
WHERE TO FIND IT

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NORTHFIELD the world leader in precision workholding air chucks.

Guaranteed accuracy from 0.0001" (2.5µ) to 0.000010" (0.25µ)

Applications
- Turning, grinding, boring, milling, measuring, inspection, material handling, robotics, CNC, EDM.
- All machines: rotating, stationary, vertical, horizontal.
- Universal workholding: internal, external, thin-wall, rigid.

Productivity
- Finger-tip control can triple output.
- Extremely simple loading/unloading. No indicating or adjusting. Can be used by unskilled operators.
- Automatic self-centering.
- Uniform pre-determined holding pressure.
- Adjustable jaw force for semi-rough or fragile holding.
- Automatic or manual operation.

Reliability
- Rotary joint air bearing eliminates metal-to-metal wear for extremely long life.
- Simple, sophisticated design: only four metal-to-metal parts in chuck: hardened center wedge; three master jaws.
- Materials: Meehanite body: steel master jaws; hardened steel center wedge.
- Balanced to operate at high speeds.
- Built-i, self-contained air cylinder.
- Built-in safety features.

The Precision Workholding Source
- Workholding leadership in accuracy, reliability, repeatability, concentricity and productivity.
- Chuck sizes: 3" (76mm) to 12" (305mm).
- “Coolant-thru” models.
- Precision top jaws shipped same day.
- Custom-designed jaw tooling service. Special jaws engineered and manufactured to your drawings or workpieces.
- Engineered workholding consultation services.

Standard for all non-rotating Northfield chucks mounted on milling machines, jig borers and all vertical spindles.

U.S. AND METRIC

All dimensions and weights listed in this catalog are in U.S. and (metric) equivalents.

ORDERING INFORMATION

To fit the custom-made air tube to your machine, we need:
(1) I.D. of the spindle’s rear. Within .002" (.051 mm).
(2) Overall length of the spindle.
(3) I.D. of the spindle’s bore at midpoint for spindles over 25 inches (635 mm) in length.

TERMS: Net 30 days, F.O.B. Island Park, NY

Accessories Available

- Air Tube Assemblies.
- Manual Operating Valve.
- Adapter plate - machined to your spindle nose configuration.
- Stationary fixture plates.
- Air pressure regulator, filter, lubricator.
- Side-mounted air ports for lower stationary chuck profile.
- Replacement top jaws (specify Model # from pages 14 and 15).
- Quick disconnects.

CUSTOM DESIGNED WORKHOLDING JAWS

Top jaws are a critical part of a precision workholding system. The same attention must be paid to jaw design and manufacture as to chuck and machine performance if maximum accuracy is to be achieved at the workpiece. Northfield’s experienced workholding engineers and specialized manufacturing facilities provide a unique capability for the design and manufacture of custom jaws.

Based on customer drawings or workpieces, we design jaws to hold the most intricate or fragile parts. The appropriate material is used - from hardened and ground tool steel through aluminum DELRIN® plastic and serrated diamond points. Jaws are created internal/external, thin-wall/rigid, over-the-shoulder, and hundreds of other unique solutions to exactly meet each workholding requirement to bring gauge block accuracy to your production pieces.

SPECIAL DEVICES FOR INCREASED PRODUCTIVITY

Quality and productivity are improved by specialized tooling produced by Northfield. Among the workholding products we design and manufacture are devices for parts ejection, coolant direction, chip blow-off, robotic loading/unloading, locating tooling, stand-offs and chuck redesign for special applications.

In most cases, quotations for these engineering services are free.
Precision Air Chucks Guarantee Accuracy within Millionths

**MODEL 300**

3 Inch • 3 Jaw (.020” opening)  
(76mm) (0.51mm opening)

**Model 300** Air Chuck comes complete including air tube assembly and one set of #AL-1-3-7/8 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 2 lbs. (.91 kg)
- with steel jaws: 2 1/2 lbs. (1.14 kg)

**Max. Recommended RPM**: 4200

**Max. Opening of Jaws**: .020” (0.51mm) on diameter

**Force per Jaw**
- variable to 316 lbs. (144 kg)

**Repeatability**
- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

**Also available with .000010”**  
(10 millionths) (2.5µ) repeatability

**Master Jaws** move at perfect right angle to ø of spindle

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**MODEL 300THS**

3 Inch • 3 Jaw (.020” opening)  
(76mm) (0.51mm opening)  
1/8” (6.35mm) Through Hole Stationary

**Model 300THS** Air Chuck comes with sideports, air hoses, valve and one set of #AL-1-3-7/8 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 2 1/2 lbs. (1.14 kg)
- with steel jaws: 2 7/8 lbs. (1.31 kg)

**Max. Recommended RPM**: 4200

**Max. Opening of Jaws**: .020” (0.51mm) on diameter

**Force per Jaw**
- variable to 316 lbs. (144 kg)

**Repeatability**
- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

**Also available with .000010”**  
(10 millionths) (2.5µ) repeatability

**Master Jaws** move at perfect right angle to ø of spindle

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**MODEL 350**

3 Inch • 3 Jaw (.060” opening)  
(76mm) (1.5mm opening)

**Model 350** Air Chuck comes complete including air tube assembly and one set of #AL-1-3-7/8 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 2 1/2 lbs. (1.14 kg)
- with steel jaws: 2 7/8 lbs. (1.31 kg)

**Max. Recommended RPM**: 4200

**Max. Opening of Jaws**: .060” (1.5mm) on diameter

**Force per Jaw**
- variable to 316 lbs. (144 kg)

**Repeatability**
- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

**Also available with .000010”**  
(10 millionths) (2.5µ) repeatability

**Master Jaws** move at perfect right angle to ø of spindle
**MODEL 350THS**

3 Inch • 3 Jaw (.060” opening)
(76mm) (1.5mm opening)
Through Hole Stationary

Model 350THS Air Chuck comes with sideports, air hoses, valve and one set of #AL-1-3-3/4 aluminum top jaws.

**Body**
class 80 ductile cast iron

**Master Jaws**
hardened steel

**Wedge**
hardened steel

**Air Cylinder**
aluminum, o-ring sealed

**Top Jaws**
located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
with aluminum jaws: 2½ lbs. (1.14 kg)
with steel jaws: 2⅜ lbs. (1.31 kg)

**Max. Opening of Jaws**
.060” (1.5mm) on diameter

**Force per Jaw**
variable to 316 lbs. (144 kg)

**Repeatability**
concentricity — .0001 (2.5µ) T.I.R. max
end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000010”
(10 millionths) (2.5µ) repeatability

**Master Jaws**
move at perfect right angle to ø of spindle

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**MODEL 400**

4 Inch • 3 Jaw (.027” opening)
(100mm) (.69mm opening)

Model 400 Air Chuck comes complete including air tube assembly and one set of #AL-1-4-3/4 aluminum top jaws.

**Body**
class 80 ductile cast iron

**Master Jaws**
hardened steel

**Wedge**
hardened steel

**Air Cylinder**
aluminum, o-ring sealed

**Top Jaws**
located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
with aluminum jaws: 4⅜ lbs. (2.16 kg)
with steel jaws: 5⅛ lbs. (2.39 kg)

**Max. Recommended RPM**
3000

**Max. Opening of Jaws**
.027” (0.69mm) on diameter

**Force per Jaw**
variable to 625 lbs. (284 kg)

**Repeatability**
concentricity — .0001 (2.5µ) T.I.R. max
end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000010”
(10 millionths) (2.5µ) repeatability

**Master Jaws**
move at perfect right angle to ø of spindle

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**MODEL 400CB**

4 Inch • 3 Jaw (.027” opening)
(100mm) (.69mm opening)
.5” (7.94) counterbore .73 (18.54) deep

Model 400CB Air Chuck comes complete including air tube assembly and one set of #AL-1-4-3/4 aluminum top jaws.

**Body**
class 80 ductile cast iron

**Master Jaws**
hardened steel

**Wedge**
hardened steel

**Air Cylinder**
aluminum, o-ring sealed

**Top Jaws**
located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
with aluminum jaws: 4⅜ lbs. (2.16 kg)
with steel jaws: 5⅛ lbs. (2.39 kg)

**Max. Recommended RPM**
3000

**Max. Opening of Jaws**
.027” (0.69mm) on diameter

**Force per Jaw**
variable to 625 lbs. (284 kg)

**Repeatability**
concentricity — .0001 (2.5µ) T.I.R. max
end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000010”
(10 millionths) (2.5µ) repeatability

**Master Jaws**
move at perfect right angle to ø of spindle
Precision Air Chucks Guarantee Accuracy within Millionths

**Model 425**

4 Inch • 3 Jaw (.250” opening)

(104mm) (6.35mm opening)

Model 425 Air Chuck comes complete including air tube assembly and one set of #AL-1-4-7/8 aluminum top jaws.

**Body** class 80 ductile cast iron

**Master Jaws** hardened steel

**Wedge** hardened steel

**Air Cylinder** aluminum and stainless steel, o-ring sealed

**Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**

- with aluminum jaws: 7½ lbs. (3.41 kg)
- with steel jaws: 8 lbs. (3.64 kg)

Max. Recommended RPM 3000

Max. Opening of Jaws 250° (6.35mm) on diameter

**Force per Jaw** variable to 645 lbs. (293 kg)

**Repeatability**

- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (64µ) repeatability

Master Jaws move at perfect right angle to £ of spindle

**Model 437**

4 Inch • 3 Jaw (.375” opening)

(100mm) (9.53mm opening)

Model 437 Air Chuck comes complete including air tube assembly and one set of #AL-1-4-7/8 aluminum top jaws.

**Body** class 80 ductile cast iron

**Master Jaws** hardened steel

**Wedge** hardened steel

**Air Cylinder** aluminum, o-ring sealed

**Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**

- with aluminum jaws: 7½ lbs. (3.41 kg)
- with steel jaws: 8 lbs. (3.64 kg)

Max. Recommended RPM 3000

Max. Opening of Jaws 375° (9.53mm) on diameter

**Force per Jaw** variable to 625 lbs. (284 kg)

**Repeatability**

- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (64µ) repeatability

Master Jaws move at perfect right angle to £ of spindle

**Model 450**

4 Inch • 3 Jaw (.100” opening)

(100mm) (2.5mm opening)

Model 450 Air Chuck comes complete including air tube assembly and one set of #AL-1-4-7/8 aluminum top jaws.

**Body** class 80 ductile cast iron

**Master Jaws** hardened steel

**Wedge** hardened steel

**Air Cylinder** aluminum and stainless steel, o-ring sealed

**Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**

- with aluminum jaws: 5½ lbs. (2.61 kg)
- with steel jaws: 6½ lbs. (2.84 kg)

Max. Recommended RPM 3000

Max. Opening of Jaws .100” (2.5mm) on diameter

**Force per Jaw** variable to 625 lbs. (284 kg)

**Repeatability**

- concentricity — .0001 (2.5µ) T.I.R. max
- end lengths — .0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (64µ) repeatability

Master Jaws move at perfect right angle to £ of spindle
**MODEL 450CB**

4 Inch • 3 Jaw (.100” opening)
(100mm) • (2.5mm opening) counterbore 1/16” (3.175) deep

Model 450CB Air Chuck comes complete including air tube assembly and one set of #AL-1-4-3/4 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**
  - with aluminum jaws: 5 1/2 lbs. (2.61 kg)
  - with steel jaws: 6 1/2 lbs. (2.84 kg)

- **Max. Recommended RPM**: 3000

- **Max. Opening of Jaws**: 100° (2.54mm) on diameter

- **Force per Jaw**: variable to 625 lbs. (284 kg)

- **Repeatability**
  - concentricity — .0001 (2.5 µ) T.I.R.
  - end lengths — .0001 (2.5 µ) T.I.R.

- **Also available with .000025” (25 millionths) (.64 µ) repeatability**

- **Master Jaws** move at perfect right angle to £ of spindle

- **Requires Rear Mounted Actuator**

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**MODEL 450THR516**

4 Inch • 3 Jaw (.100” opening)
(100mm) • (2.5mm opening) Through Hole Rotating

Model 450THR516 Air Chuck comes with one set of #AL-1-4-3/4 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**
  - with aluminum jaws: 5 1/2 lbs. (2.61 kg)
  - with steel jaws: 6 1/2 lbs. (2.84 kg)

- **Max. Recommended RPM**: 3000

- **Max. Opening of Jaws**: 100° (2.54mm) on diameter

- **Force per Jaw**: variable to 625 lbs. (284 kg)

- **Repeatability**
  - concentricity — .0001 (2.5 µ) T.I.R.
  - end lengths — .0001 (2.5 µ) T.I.R.

- **Also available with .000025” (25 millionths) (.64 µ) repeatability**

- **Master Jaws** move at perfect right angle to £ of spindle

- **Requires Rear Mounted Actuator**

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**MODEL 450THR750**

4 Inch • 3 Jaw (.100” opening)
(100mm) • (2.5mm opening) Through Hole Rotating

Model 450THR750 Air Chuck comes with one set of #AL-1-4-3/4 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**
  - with aluminum jaws: 5 1/2 lbs. (2.61 kg)
  - with steel jaws: 6 1/2 lbs. (2.84 kg)

- **Max. Recommended RPM**: 3000

- **Max. Opening of Jaws**: 100° (2.54mm) on diameter

- **Force per Jaw**: variable to 625 lbs. (284 kg)

- **Repeatability**
  - concentricity — .0001 (2.5 µ) T.I.R.
  - end lengths — .0001 (2.5 µ) T.I.R.

- **Also available with .000025” (25 millionths) (.64 µ) repeatability**

- **Master Jaws** move at perfect right angle to £ of spindle

- **Requires Rear Mounted Actuator**
Precision Air Chucks Guarantee Accuracy within Millionths

**MODEL 470**

4 Inch • 2 Jaw (.100” opening)

Model 470 Air Chuck comes complete including air tube assembly and one set of #AL-2-4-1/2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum and stainless steel, o-ring sealed, incorporated into the chuck body
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**: with aluminum jaws: 6½ lbs. (2.88 kg)  
  with steel jaws: 7½ lbs. (3.41 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: 100° (2.5mm) on diameter
- **Force per Jaw**: variable to 938 lbs. (426 kg)
- **Repeatability**: concentricity — .0001 (2.5µ) T.I.R. max
- **Master Jaws**: move at perfect right angle to ø of spindle

**MODEL 600**

6 Inch • 3 Jaw (.027” opening)

Model 600 Air Chuck comes complete including air tube assembly and one set of #AL-1-6-1 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**: with aluminum jaws: 11½ lbs. (5.15 kg)  
  with steel jaws: 12 lbs. (5.45 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: 0.27” (.69mm) on diameter
- **Force per Jaw**: variable to 988 lbs. (449 kg)
- **Repeatability**: concentricity — .0001 (2.5µ) T.I.R. max
- **Master Jaws**: move at perfect right angle to ø of spindle

**MODEL 620CB**

6 Inch • 3 Jaw (.100” opening)

Model 620CB Air Chuck comes complete including air tube assembly and one set of #AL-1-6-1 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum and stainless steel, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

- **Weight**: with aluminum jaws: 16½ lbs. (7.39 kg)  
  with steel jaws: 17 lbs. (7.73 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: 100° (2.5mm) on diameter
- **Force per Jaw**: variable to 1200 lbs. (545 kg)
- **Repeatability**: concentricity — .0001 (2.5µ) T.I.R. max
- **Master Jaws**: move at perfect right angle to ø of spindle
M O D E L

620THR

6 Inch • 3 Jaw (.100" opening)
(150mm) (2.5mm opening)
1" (25.48mm) Through Hole Rotating

Model: 620THR Air Chuck comes with one set of #AL-1-6-1 aluminum top jaws.

Body: class 80 ductile cast iron
Master Jaws: hardened steel
Wedge: hardened steel
Air Cylinder: aluminum, o-ring sealed
Top Jaws: located on hardened steel pins in master jaws & secured by socket head cap screws

Weight:
- With aluminum jaws: 16.7 lbs. (7.59 kg)
- With steel jaws: 17.8 lbs. (7.68 kg)

Max. Recommended RPM: 3000
Max. Opening of Jaws: 100° (2.54 mm) on diameter
Force per Jaw: variable to 1200 lbs. (545 kg)
Repeatability:
- Concentricity: .0001 (2.5µ) T.I.R. max
- End lengths: .0001 (2.5µ) T.I.R. max

Also available with .000025" (.64µ) repeatability
Master Jaws: move at perfect right angle to 

Requires Rear Mounted Actuator

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M O D E L

620THS

6 Inch • 3 Jaw (.100" opening)
(150mm) (2.5mm opening)
1" (25.48mm) Through Hole Stationary

Model: 620THS Air Chuck comes with sideports, air hoses, valve and one set of #AL-1-6-1 aluminum top jaws.

Body: class 80 ductile cast iron
Master Jaws: hardened steel
Wedge: hardened steel
Air Cylinder: aluminum and stainless steel, o-ring sealed
Top Jaws: located on hardened steel pins in master jaws & secured by socket head cap screws

Weight:
- With aluminum jaws: 16.7 lbs. (7.59 kg)
- With steel jaws: 17.8 lbs. (7.68 kg)

Max. Recommended RPM: 3000
Max. Opening of Jaws: 100° (2.54 mm) on diameter
Force per Jaw: variable to 1200 lbs. (545 kg)
Repeatability:
- Concentricity: .0001 (2.5µ) T.I.R. max
- End lengths: .0001 (2.5µ) T.I.R. max

Also available with .000025" (.64µ) repeatability
Master Jaws: move at perfect right angle to 

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M O D E L

625CB

6 Inch • 3 Jaw (.250" opening)
(150mm) (2.5mm opening)
1" (25.48mm) counterbore 3.24" (82.3) deep

Model: 625CB Air Chuck comes complete including one set of #AL-1-6-1 aluminum top jaws.

Body: class 80 ductile cast iron
Master Jaws: hardened steel
Wedge: hardened steel
Air Cylinder: aluminum, o-ring sealed
Top Jaws: located on hardened steel pins in master jaws & secured by socket head cap screws

Weight:
- With aluminum jaws: 16.7 lbs. (7.59 kg)
- With steel jaws: 17.8 lbs. (7.68 kg)

Max. Recommended RPM: 3000
Max. Opening of Jaws: 250° (6.4mm) on diameter
Force per Jaw: variable to 1200 lbs. (545 kg)
Repeatability:
- Concentricity: .0001 (2.5µ) T.I.R. max
- End lengths: .0001 (2.5µ) T.I.R. max

Also available with .000025" (.64µ) repeatability
Master Jaws: move at perfect right angle to 

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Precision Air Chucks Guarantee Accuracy within Millionths

**Model 625THR**

6 Inch • 3 Jaw (.250” opening) (150mm) (6.35mm opening)

1” (25.48mm) Through Hole Rotating

Model 625THR Air Chuck comes with one set of #AL-1-6-1 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 16½ lbs. (7.39 kg)
- with steel jaws: 17 lbs. (7.73 kg)

Max. Recommended RPM: 3000

Max. Opening of Jaws: 250° (6.35 mm) on diameter

**Force per Jaw**: variable to 1200 lbs. (545 kg)

**Repeatability**
- Concentricity: 0.0001 (2.5µ) T.I.R. max
- End Lengths: 0.0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (.64µ) repeatability

Master Jaws move at perfect right angle to g of spindle

Requires Rear Mounted Actuator

**Model 625THS**

6 Inch • 3 Jaw (.250” opening) (150mm) (6.35mm opening)

1” (25.48mm) Through Hole Rotating

Model 625THS Air Chuck comes with sideports, air hoses, valve and one set of #AL-1-6-1 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 16½ lbs. (7.39 kg)
- with steel jaws: 17 lbs. (7.73 kg)

Max. Opening of Jaws: 250° (6.4 mm) on diameter

**Force per Jaw**: variable to 1200 lbs. (545 kg)

**Repeatability**
- Concentricity: 0.0001 (2.5µ) T.I.R. max
- End Lengths: 0.0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (.64µ) repeatability

Master Jaws move at perfect right angle to g of spindle

**Model 650**

6 Inch • 3 Jaw (.100” opening) (150mm) (2.5mm opening)

Model 650 Air Chuck comes complete including air tube assembly and one set of #AL-1-6-1 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum and stainless steel, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- with aluminum jaws: 14½ lbs. (6.42 kg)
- with steel jaws: 14½ lbs. (6.76 kg)

Max. Recommended RPM: 3000

Max. Opening of Jaws: 100° (2.5mm) on diameter

**Force per Jaw**: variable to 988 lbs. (449 kg)

**Repeatability**
- Concentricity: 0.0001 (2.5µ) T.I.R. max
- End Lengths: 0.0001 (2.5µ) T.I.R. max

Also available with .000025” (25 millionths) (.64µ) repeatability

Master Jaws move at perfect right angle to g of spindle
**MODEL 670**

6 Inch • 2 Jaw (.100” opening) (150mm) (2.5mm opening)

Model 670 Air Chuck comes complete including air tube assembly and one set of #AL-2-6-1/2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum and stainless steel, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 14 lbs. (6.36 kg) with steel jaws: 19 lbs. (8.64 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: .100” (2.5mm) on diameter
- **Force per Jaw**: variable to 1482 lbs. (674 kg)
- **Repeatability**:
  - Concentricity: .0001 (2.5µ) I.R. max
  - End Lengths: .0001 (2.5µ) I.R. max
- **Master Jaws**: move at perfect right angle to axis of spindle

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**MODEL 675**

6 Inch • 2 Jaw (.250” opening) (150mm) (6.35mm opening)

Model 675 Air Chuck comes complete including air tube assembly and one set of #AL-1-6-1/2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 14 lbs. (6.36 kg) with steel jaws: 19 lbs. (8.64 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: .250” (6.35 mm) on diameter
- **Force per Jaw**: variable to 1482 lbs. (674 kg)
- **Repeatability**:
  - Concentricity: .0001 (2.5µ) I.R. max
  - End Lengths: .0001 (2.5µ) I.R. max
- **Master Jaws**: move at perfect right angle to axis of spindle

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**MODEL 675THR**

6 Inch • 2 Jaw (.250” opening) (150mm) (6.35mm opening)

1” (25.48mm) Through Hole Rotating

Model 675THR Air Chuck comes with one set of #AL-2-6-1/2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 14 lbs. (6.36 kg) with steel jaws: 19 lbs. (8.64 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: .250” (6.35 mm) on diameter
- **Force per Jaw**: variable to 1482 lbs. (674 kg)
- **Repeatability**:
  - Concentricity: .0001 (2.5µ) I.R. max
  - End Lengths: .0001 (2.5µ) I.R. max
- **Master Jaws**: move at perfect right angle to axis of spindle

**Requires Rear Mounted Actuator**
Precision Air Chucks Guarantee Accuracy within Millionths

**MODEL 675THS**

6 Inch • 2 Jaw (.250” opening)

(150mm) (6.35mm opening)

1” (25.48mm) Through Hole Stationary

Model 675THS Air Chuck comes with sideports, air hoses, valve and one set of #AL-2-6-1 1/2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 14 lbs. (6.36 kg) with steel jaws: 19 lbs. (8.64 kg)
- **Max. Opening of Jaws**: 250° (6.35 mm) on diameter
- **Force per Jaw**: variable to 1482 lbs. (674 kg)
- **Repeatability**: concentricity — 0.0001 (2.5µ) T.I.R. max end lengths — 0.0001 (2.5µ) T.I.R. max
- **Also available with .000025” (25 millionths) (.64µ) repeatability**
- **Master Jaws**: move at perfect right angle to $\frac{\pi}{2}$ of spindle

**MODEL 700**

7 Inch • 3 Jaw (.100” opening)

(178mm) (2.5mm opening)

Model 700 Air Chuck comes complete including air tube assembly and one set of #AL-1-7-2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum & stainless steel, o-ring sealed
- **Top Jaws**: located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 32 lbs. (14.66 kg) with steel jaws: 35 lbs. (16.14 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: 100° (2.5mm) on diameter
- **Force per Jaw**: variable to 1667 lbs. (758 kg)
- **Repeatability**: concentricity — 0.0001 (2.5µ) T.I.R. max end lengths — 0.0001 (2.5µ) T.I.R. max
- **Also available with .000025” (25 millionths) (.64µ) repeatability**
- **Master Jaws**: move at perfect right angle to $\frac{\pi}{2}$ of spindle

**MODEL 770**

7 Inch • 2 Jaw (.100” opening)

(178mm) (2.5mm opening)

Model 770 Air Chuck comes complete including air tube assembly and one set of #AL-1-7-2 aluminum top jaws.

- **Body**: class 80 ductile cast iron
- **Master Jaws**: hardened steel
- **Wedge**: hardened steel
- **Air Cylinder**: aluminum & stainless steel, o-ring sealed
- **Top Jaws**: jig bored & located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight**: with aluminum jaws: 30.25 lbs. (13.75 kg) with steel jaws: 35.5 lbs. (16.14 kg)
- **Max. Recommended RPM**: 3000
- **Max. Opening of Jaws**: 100° (2.5mm) on diameter
- **Force per Jaw**: variable to 2500 lbs. (1136 kg)
- **Repeatability**: concentricity — 0.0005 (12.7µ) T.I.R. max end lengths — 0.0005 (12.7µ) T.I.R. max
- **Also available with .000025” (25 millionths) (.64µ) repeatability**
- **Master Jaws**: move at perfect right angle to $\frac{\pi}{2}$ of spindle
**NORTHFIELD**

### Model 800
*8 Inch • 3 Jaw (.100” opening)*
*(203mm)*

- **Model 800** Air Chuck comes complete including air tube assembly and one set of #AL-1-8-2 aluminum top jaws.
- **Body** class 80 ductile cast iron
- **Master Jaws** hardened steel
- **Wedge** hardened steel
- **Air Cylinder** aluminum & stainless steel, o-ring sealed, incorporated into the chuck body
- **Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight** with aluminum jaws: 38 lbs. (17.27 kg) with steel jaws: 47 lbs. (21.36 kg)
- **Max. Recommended RPM** 2300 with AL-1-8-2
- **Max. Opening of Jaws** .100” (.25mm) on diameter
- **Force per Jaw** variable to 1667 lbs. (758 kg)
- **Repeatability**
  - Concentricity — 0.0001 (2.5µ) T.I.R. max
  - End lengths — 0.0001 (2.5µ) T.I.R. max
- Also available with **.000025”** (25 millionths) (.64µ) repeatability
- **Master Jaws** move at perfect right angle to ø of spindle

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### Model 870
*8 Inch • 2 Jaw (.100” opening)*
*(203mm)*

- **Model 870** Air Chuck comes complete including air tube assembly and one set of #AL-1-8-2 aluminum top jaws.
- **Body** class 80 ductile cast iron
- **Master Jaws** hardened steel
- **Wedge** hardened steel
- **Air Cylinder** aluminum, o-ring sealed
- **Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight** with aluminum jaws: 36 lbs. (16.36 kg) with steel jaws: 45 lbs. (20.45 kg)
- **Max. Recommended RPM** 2300 with AL-1-8-2
- **Max. Opening of Jaws** .100” (.25mm) on diameter
- **Force per Jaw** variable to 2500 lbs. (1136 kg)
- **Repeatability**
  - Concentricity — 0.0001 (2.5µ) T.I.R. max
  - End lengths — 0.0001 (2.5µ) T.I.R. max
- Also available with **.000025”** (25 millionths) (.64µ) repeatability
- **Master Jaws** move at perfect right angle to ø of spindle

---

### Model 1000
*10 Inch • 3 Jaw (.100” opening)*
*(254mm)*

- **Model 1000** Air Chuck comes complete including air tube assembly and one set of #AL-1-10-2 aluminum top jaws.
- **Body** class 80 ductile cast iron
- **Master Jaws** hardened steel
- **Wedge** hardened steel
- **Air Cylinder** aluminum and stainless steel, o-ring sealed, incorporated into the body
- **Top Jaws** located on hardened steel pins in master jaws & secured by socket head cap screws
- **Weight** with aluminum jaws: 60 lbs. (27.27 kg) with steel jaws: 70 lbs. (31.82 kg)
- **Max. Recommended RPM** 2000 with AL-1-10-2
- **Max. Opening of Jaws** .100” (.25mm) on diameter
- **Force per Jaw** variable to 2600 lbs. (1206 kg)
- **Repeatability**
  - Concentricity — 0.0001 (2.5µ) T.I.R. max
  - End lengths — 0.0001 (2.5µ) T.I.R. max
- Also available with **.000025”** (25 millionths) (.64µ) repeatability
- **Master Jaws** move at perfect right angle to ø of spindle

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**MODEL 1025**
10 Inch • 3 Jaw (.250” opening)
(254mm) (6.35mm opening)

Model 1025 Air Chuck comes complete including air tube assembly and one set of #AL-1-10-2 aluminum top jaws.

- **Body**: Class 80 ductile cast iron
- **Master Jaws**: Hardened steel
- **Wedge**: Hardened steel
- **Air Cylinder**: Aluminum, o-ring sealed
- **Top Jaws**: Located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- With aluminum jaws: 60 lbs. (27.27 kg)
- With steel jaws: 70 lbs. (31.82 kg)

**Max. Recommended RPM**: 2000

**Max. Opening of Jaws**: 2.50” (6.35 mm) on diameter

**Force per Jaw**: Variable to 2658 lbs. (1208 kg)

**Repeatability**
- Concentricity — .0001 (2.5µ) T.I.R. max
- End lengths — .0001 (2.5µ) T.I.R. max

*Also available with .000025” (25 millionths) (.64µ) repeatability*

**Master Jaws** move at perfect right angle to axis of spindle

---

**MODEL 1070**
10 Inch • 2 Jaw (.100” opening)
(254mm) (2.5mm opening)

Model 1070 Air Chuck comes complete including air tube assembly and one set of #AL-2-10-2 aluminum top jaws.

- **Body**: Class 80 ductile cast iron
- **Master Jaws**: Hardened steel
- **Wedge**: Hardened steel
- **Air Cylinder**: Aluminum, o-ring sealed
- **Top Jaws**: Located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- With aluminum jaws: 60 lbs. (27.27 kg)
- With steel jaws: 70 lbs. (31.82 kg)

**Max. Recommended RPM**: 2000

**Max. Opening of Jaws**: 1.00” (2.5 mm) on diameter

**Force per Jaw**: Variable to 3990 lbs. (1801 kg)

**Repeatability**
- Concentricity — .0001 (2.5µ) T.I.R. max
- End lengths — .0001 (2.5µ) T.I.R. max

*Also available with .000025” (25 millionths) (.64µ) repeatability*

**Master Jaws** move at perfect right angle to axis of spindle

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**MODEL 1200**
12 Inch • 3 Jaw (.100” opening)
(305mm) (2.5mm opening)

Model 1200 Air Chuck comes complete including air tube assembly and one set of #AL-1-12-3 aluminum top jaws.

- **Body**: Class 80 ductile cast iron
- **Master Jaws**: Hardened steel
- **Wedge**: Hardened steel
- **Air Cylinder**: Aluminum and stainless steel, o-ring sealed, incorporated into the chuck body
- **Top Jaws**: Jig bored & located on hardened steel pins in master jaws & secured by socket head cap screws

**Weight**
- With aluminum jaws: 100 lbs. (45.45 kg)
- With steel jaws: 123 lbs. (55.91 kg)

**Max. Recommended RPM**: 1600

**Max. Opening of Jaws**: .375” (.935 mm) on diameter

**Force per Jaw**: Variable to 3143 lbs. (1429 kg)

**Repeatability**
- Concentricity — .0001 (2.5µ) T.I.R. max
- End lengths — .0001 (2.5µ) T.I.R. max

*Also available with .000025” (25 millionths) (.64µ) repeatability*

**Master Jaws** move at perfect right angle to axis of spindle
### SERIES 300

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-3-½ | ½ (19.05) | .750 (19.05) | .094-2.830 (36.91) | .250-2.830 (63.5-71.88)
ALUMINUM | AL-1-3-1½ | 1½ (38.10) | 1.453 (38.10) | .130-3.750 (48.13) | .250-3.750 (63.5-95.25)
MILD STEEL | ST-1-3-½ | ½ (19.05) | 1.952 (38.10) | .130-3.750 (48.13) | .250-3.750 (63.5-95.25)
MILD STEEL | ST-1-3-1½ | 1½ (38.10) | 2.00 (50.80) | .250-3.750 (63.5-95.25)

### SERIES 400

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-4-¾ | ¾ (19.05) | .750 (19.05) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
ALUMINUM | AL-1-4-1½ | 1½ (38.10) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-4-¾ | ¾ (19.05) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-4-1½ | 1½ (38.10) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-4-3 | 3.00 (76.20) | 4.00 (101.60) | .250-5.750 (63.5-146.05)

### SERIES 600

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-6-1 | 1.0 (25.40) | 1.00 (25.40) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
ALUMINUM | AL-1-6-1½ | 1½ (38.10) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-6-1 | 1.0 (25.40) | 1.952 (49.55) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-6-1½ | 1½ (38.10) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-6-3 | 3.00 (76.20) | 4.00 (101.60) | .250-5.750 (63.5-146.05)

### SERIES 700

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-7-2 | 2.0 (50.80) | 2.00 (50.80) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
ALUMINUM | AL-1-7-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-7-2 | 2.0 (50.80) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-7-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-7-4 | 4.0 (101.60) | 4.00 (101.60) | .250-5.750 (63.5-146.05)

### SERIES 800

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-8-2 | 2.0 (50.80) | 2.00 (50.80) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
ALUMINUM | AL-1-8-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-8-2 | 2.0 (50.80) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-8-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-8-4 | 4.0 (101.60) | 4.00 (101.60) | .250-5.750 (63.5-146.05)

### SERIES 1000

**Material** | **Order by Jaw Number** | **Jaw Dimensions** | **Chucking Range**
--- | --- | --- | ---
ALUMINUM | AL-1-10-2 | 2.0 (50.80) | 2.00 (50.80) | .130-5.750 (48.13) | .250-5.750 (63.5-146.05)
ALUMINUM | AL-1-10-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-10-2 | 2.0 (50.80) | 2.00 (50.80) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-10-3 | 3.0 (76.20) | 3.00 (76.20) | .250-5.750 (63.5-146.05)
MILD STEEL | ST-1-10-4 | 4.0 (101.60) | 4.00 (101.60) | .250-5.750 (63.5-146.05)

**Note** – Special height, pointed, and over-size diameter jaws are available in all sizes.
<table>
<thead>
<tr>
<th>Material</th>
<th>Order by Jaw Number</th>
<th>Jaw Dimensions Inches (mm)</th>
<th>Chucking Range External Inches (mm)</th>
<th>Chucking Range Internal Inches (mm)</th>
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<tr>
<td>ALUMINUM</td>
<td>AL-3-3-¾</td>
<td>⅜ (19.05)</td>
<td>.130-2.830</td>
<td>.250-2.830</td>
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<tr>
<td>ALUMINUM</td>
<td>AL-3-3-1½</td>
<td>⅜ (19.05)</td>
<td>(3.30-71.88)</td>
<td>(6.35-71.88)</td>
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<tr>
<td>MILD STEEL</td>
<td>ST-3-3-¾</td>
<td>⅜ (19.05)</td>
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<tr>
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<td>ST-3-3-2</td>
<td>2.0 (50.80)</td>
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</tbody>
</table>

Note – Special height, pointed, and over-size diameter jaws are available in all sizes.
WARRANTY

Northfield Precision Instrument Corp. warrants its Air Chucks and appurtenances thereto to be free from defective material and workmanship. The chucks are guaranteed to perform as represented herein provided all installation instructions have been followed and chuck is mounted and prepared properly. This guarantee will prevail for a period of 90 days from date of delivery during which time Northfield will repair or replace any defective parts at no cost to purchaser if the chuck is returned to the factory.

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Northfield Precision works closely with a worldwide network of representatives and distributors to provide sales and service for the most accurate line of air chucks in the world. This network is supported by factory engineers, full documentation and a national advertising program.

In addition, Northfield is continually developing new products, custom designed to solve the most difficult workholding problems. Northfield supplies precision products to the automotive, aerospace, electrical/electronic, medical/optical, machine tool, plastics/ceramics and appliance industries.

Northfield provides special accessories such as: automatic lubrication; air or spring ejectors; parts locators; coolant redirection; rubber covers; multiple chuck pallets; all metric chucks; quick-change top jaws. Northfield engineers provide custom workholding solutions for any part that may seem to be impossible to hold.