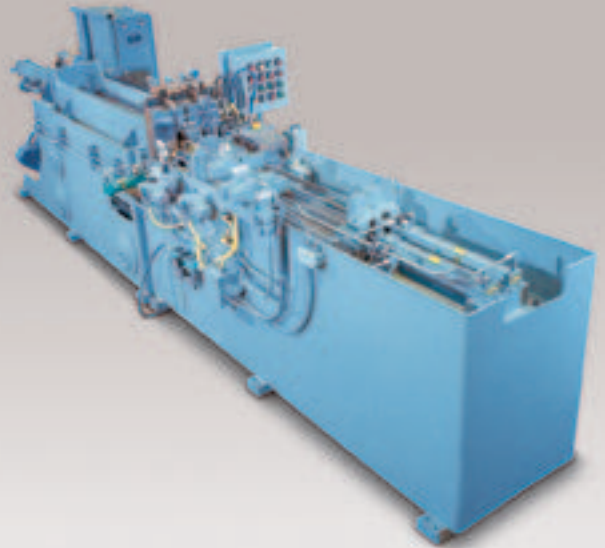


# OHIO BROACH HORIZONTAL INTERNAL BROACHING MACHINES



## CAPACITY RANGE

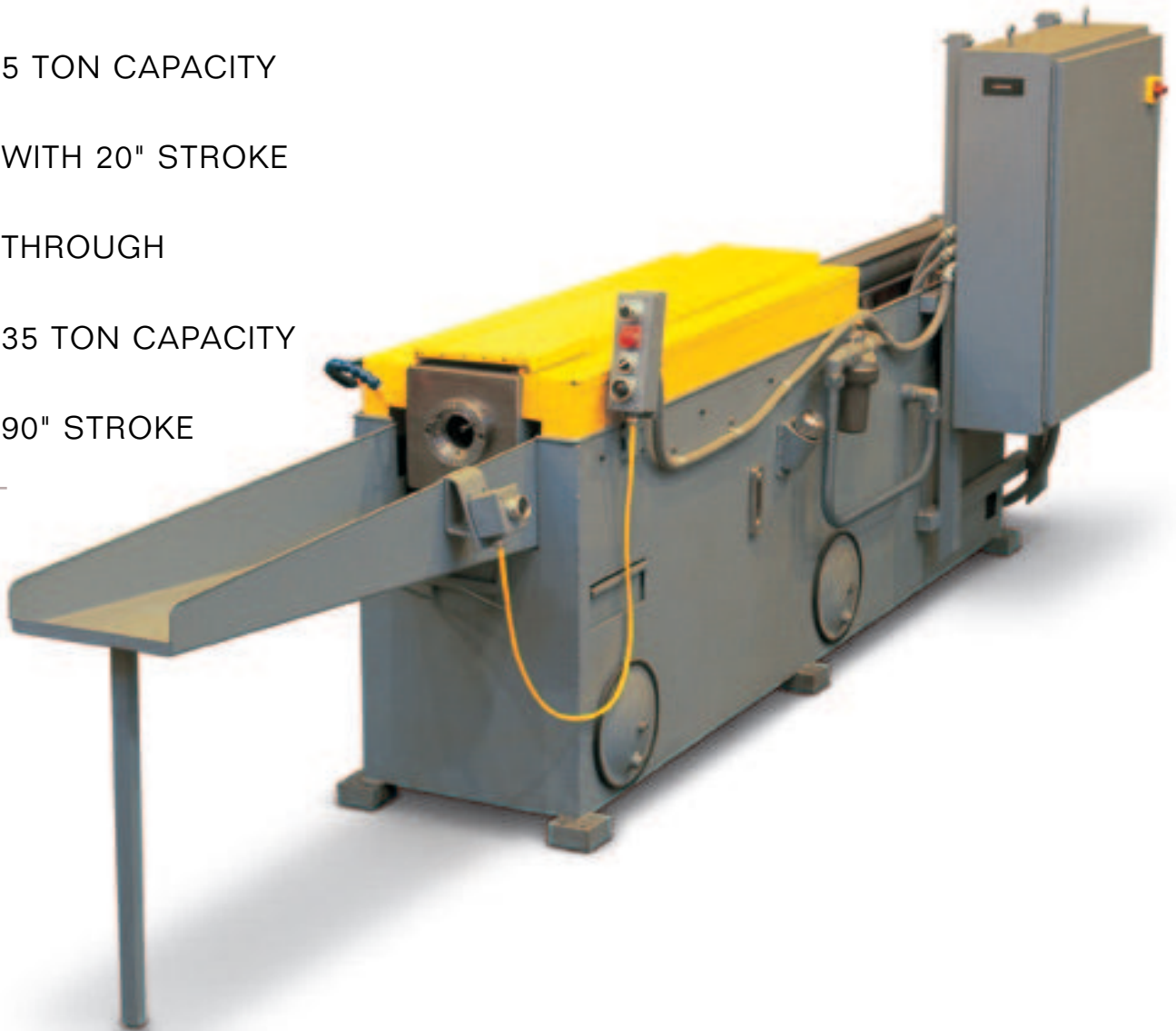
5 TON CAPACITY

WITH 20" STROKE

THROUGH

35 TON CAPACITY

90" STROKE



**The Ohio Broach & Machine Company**  
35264 Topps Industrial Parkway • Willoughby, Ohio 44094-4684  
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ISO 9001 Certified

# Ohio Broach Horizontal Broaching Machines

## MACHINE FEATURES

### BASIC MACHINE

Ohio Horizontal Broaching Machines with the "HC" model designation utilize a close-grained, high-tensile, one-piece cast iron guide head. Machines with the "HF" model designation employ a continuously welded and thermally stressed relieved, fabricated steel guide head. Each is designed and constructed to assure the rigidity and stability required for precise tool tracking. And each model uses hardened and ground alloy steel machine ways to guide the machine pull head.

The machine pull heads on Ohio Horizontal Broaching Machines are equipped with precision ground wear pads that are easily accessible for replacement when necessary. All pull heads can be easily adjusted for vertical tool alignment, and all but the HC520 utilize the industry standard 2-inch, 8-pitch female thread for broach puller attachment. The rapid return of the broach pull head to its starting position is a welcome standard feature on all our models.

A complete range of machines with standard strokes, tonnages, and cutting speeds is available for just about every broaching need. Special machines are also available for hybrid broaching applications. Whatever your broaching requirement, you'll get the same commitment to quality and attention to detail in everything we build for you.

### ELECTRICAL SYSTEM

The mainstay of the electrical control system on Ohio Horizontal Broaching Machines is the Programmable Logic Controller. This electronic brainchild, supplied by Allen-Bradley, one of the leading manufacturers in the machine control industry, provides consistent and reliable machine regulation for the variety of operational functions associated with broaching. Programmed at our factory to handle your specific needs, it can be fine tuned at your facility to adapt to your changing production demands. Our electrical engineering staff stands ready to offer assistance in keeping your Ohio Broaching Machine as contemporary as the day it left our plant.

Our electrical system designs conform to all applicable National Electrical Code (NEC) and National Fire Protection Association (NFPA 79) requirements, and can be adapted to conform to other specific local, state, national, or international regulations that may apply at your facility. All electrical components used on our systems are listed and labeled by the prevailing national testing agencies.

### HYDRAULIC SYSTEM

The principal hydraulic system employed on Ohio Horizontal Broaching Machines is the time tested, open loop configuration, which features a high performance, fixed displacement vane pump as its foundation. Powerful yet energy-efficient, it is the proven workhorse required for those demanding broaching applications.

All hydraulic products used within our systems are chosen from our short list of tried and true manufacturers, companies whose reputations have proven they are among the best in their field. Each supplier we use has the technological expertise necessary to provide application matched component selection, and each has the global market presence necessary to provide down stream support to our customers.

If your broaching application requires it, we can also provide a custom designed power or motion control system. Working closely with our assembled team of hydraulic suppliers, we can provide an optimal hydraulic system to suit virtually every broaching need.

## MACHINE OPTIONS

### RETRIEVER OPTIONS

- Tool Handler Type: Assists an operator with the loading and unloading of large or heavy broaching tools
- Full Follower Type: Same as above but also follows along with the broach during the cut cycle for maximum broach stabilization.

### ELECTRICAL OPTIONS

- Lockable Machine Cycle Counter (Unlockable is standard)
- Power Correction Capacitor
- Electronic Human/Machine Interface (H/MI) Controls
- Smart Motor Control

### COOLANT OPTIONS

- Disposable Filter Bags (Strainer Drawer is standard)
- Magnetic or Drag-style Chip Removal Conveyor (Manual clean out is standard)

### HYDRAULIC OPTIONS

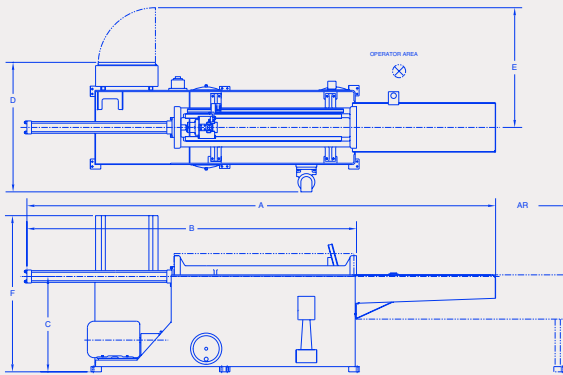
- Open or Closed-Loop Variable Speed Control (Fixed speed is standard)

### MISCELLANEOUS OPTIONS

- Cross Keyed Fixturing Surface
- Radial Location Pull Head
- Special Workpiece Fixturing
- Guided Broach Applications
- Bar Stock Feeder (for cut off applications)
- Ultra-precision Pull Head (for accurate and repetitive positioning of Precision Shank, R-type Broach Pullers in the Pull Head)

# OHIO BROACH HORIZONTAL INTERNAL BROACHING MACHINES

## HC AND HDC MODELS



## MACHINE DIMENSIONS

MACHINE	A	B	C	D	E	F	A*
HC520	102	75	39.63	41	75	62	---
HC348	178	124	37.13	44	78	62	---
HC548	178	124	37.13	44	78	62	205
HDC548	182	129	36.63	50	84	62	215
HDC1048	184	131	36.63	50	84	62	215
HDC1548	185	132	36.63	50	84	62	215
HDC554	205	145	36.63	50	84	62	235
HDC1054	210	150	36.63	50	84	62	235
HDC1554	212	152	36.63	50	84	62	235
HDC580	211	151	36.63	50	84	62	240
HDC1080	216	156	36.63	50	84	62	240
HDC1580	218	158	36.63	50	84	62	240
HF1066	239	170	36.00	58	90	62	275
HF1566	240	171	36.00	58	90	62	275
HF2066	241	172	36.00	58	90	62	290
HF1072	251	182	36.00	58	90	62	290
HF1572	252	183	36.00	58	90	62	290
HF2072	253	184	36.00	58	90	62	290
HF3590	307	219	36.00	62	96	62	355

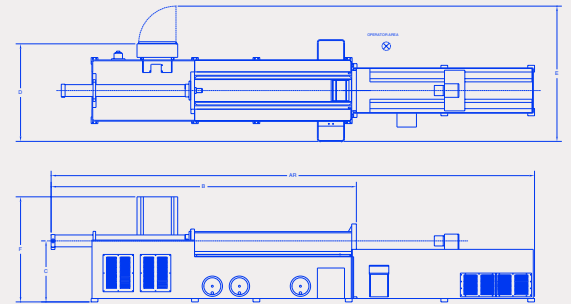
All dimensions in inches. A = Length of machine with drip pan. A\* = Length of machine with retriever.

## MACHINE SPECIFICATIONS

MACHINE	HC520	HC348	HC548	HDC548	HDC1048	HDC1548	HDC554	HDC1054	HDC1554	HDC560	HDC1060	HDC1560	HF1066	HF1566	HF2066	HF1072	HF1572	HF2072	HF3590	
Tonnage	5 TON	3 TON	5 TON	5 TON	10 TON	15 TON	5 TON	10 TON	15 TON	5 TON	10 TON	15 TON	10 TON	15 TON	20 TON	10 TON	15 TON	20 TON	35 TON	
Stroke	20"	48"	48"	48"	48"	48"	54"	54"	54"	60"	60"	66"	66"	66"	66"	72"	72"	72"	90"	
Cylinder Bore Diameter	4"	3.25"	4"	4"	6"	7"	4"	6"	7"	4"	7"	6"	6"	7"	8"	6"	7"	8"	10"	
Cylinder Rod Diameter	2"	1.75"	2"	2"	3"	3.5"	2"	3"	3.5"	2"	3"	3.5"	3.5"	4"	4.5"	3.5"	4"	4.5"	4.5"	
Standard Broach Speed (FPM)*	40	80	40	40	30	25	40	30	25	40	30	25	40	30	25	40	30	35	25	20
Standard Return Speed (FPM)	120	200	120	120	100	70	120	100	70	120	100	70	95	70	55	95	70	55	80	
Hydraulic Motor Horsepower	15	15	15	15	30	30	15	30	30	15	30	30	30	30	40	30	30	30	40	50
Hydraulic Pump Flow (GPM)	21	25	21	21	38	38	21	38	38	21	38	38	50	50	50	50	50	50	50	72
Coolant Motor Horsepower	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Coolant Pump Flow (GPM@HFT)**	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15	20@15
Hydraulic Tank Capacity (GAL)	50	70	70	150	150	150	150	150	150	150	150	150	200	200	200	200	200	200	200	300
Coolant Tank Capacity (GAL)	13	30	30	35	35	35	35	35	35	35	35	35	30	30	30	30	30	30	30	30

\*Other Speeds and Variable Flow upon request.  
Other special strokes, tonnages and speeds are available. Please consult factory with your requirements.  
Note: Dimensions and specifications are subject to change. Please consult our factory for possible change or improvements.  
\*\*Coolant pump flow and motor based on water soluble coolant - not oil.

## HF MODELS



# Ohio Broach Horizontal Broaching Machines

## OHIO BROACH DOES ALL FOUR

### DESIGN/MANUFACTURE BROACHES

We'll design and manufacture new tools for your existing broaching machines. Based on your specifications, our engineers will choose the correct high-speed steel that will determine the correct broach tool for your needs. Made of the proper steel, your new broach will give you the optimum in tool life, speed, reliability and economy.

### SHARPEN, REPAIR, RECONDITION

Properly sharpened broaches add longevity to broach life, minimize downtime costs and assure quality parts. Our grinding department will sharpen, weld, repair and recondition old broaches to new broach specifications. And our two-shift operation can provide 24-hour service on an emergency basis.

### PRODUCTION BROACHING

If you need a volume of complex, precision parts brought to size quickly and economically, bring them to Ohio Broach. We have a wide range of vertical, horizontal, chain-type and pot-type broaching machines. We mass-produce parts with tight tolerances and rigid uniformity. From broached internal gears to intricate medical forceps, from hand tools to six-lobe cams, we broach it all.

### BUILD/REBUILD MACHINES

Our "OHIO" line of broaching machines includes vertical and horizontal machines, vertical table-up machines, as well as custom-designed machines for special tasks. They are efficient, user-friendly, occupy little floor space and provide the highest production possible. Also, if you need your old machine rebuilt, send it to us and we'll make it run like new. Complete automation is available on new and rebuilt machines.



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5M 12-02



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