

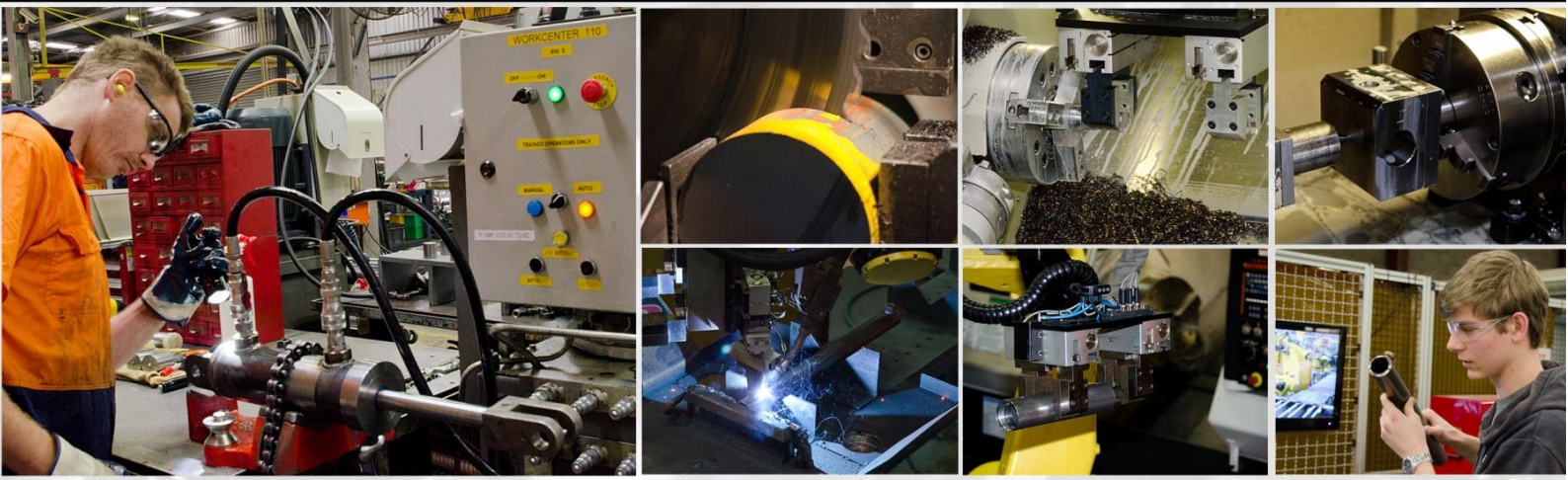
Phasing CYLINDERS



2012 Product Catalogue
Celebrating 40 Years

NORDON CYLINDERS
Australia

Phasing Cylinders Product Catalogue



Nordon Cylinders

15 Johnstone Road Brendale Qld 4500
Phone 07 3889 6522 Fax 07 3889 7198
www.nordoncyl.com.au

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Company Profile

Nordon Hydraulics was founded by Norm Johnson on 13 October 1972 at Geebung in Brisbane, Queensland. Mr Johnson continues as one of the two working directors. Fay Vogelzang joined the company in 1982. After 40 years in the business, servicing the oil hydraulic industry as well as various Original Equipment Manufacturers (OEM), the Company still retains the same strong commitment to **Quality, Service and Customer Satisfaction.**

The business was conceived as a hydraulic service business originally in the mobile equipment field with earthmoving equipment and later embracing industrial hydraulics across a variety of industries. The repair of cylinders exposed Nordon to a wide range of designs and their corresponding strengths. With the knowledge gained from repairing and servicing cylinders, Nordon developed quality cylinder manufacturing and hence that side of the business gained momentum which led to the decision in the early 1990's to make the transition from service and manufacture to full time manufacturing.

The following years saw considerable changes within the business which resulted in significant investment in technology, machinery and engineering design capacity. Included in this transition to focus on OEM manufacturing for cylinders was the relocation of the factory to Brendale. The investment in technology and machinery, and recently supplemented with the addition of fully automated production cells ensures that Nordon is globally competitive in terms of quality and cost.

Cylinder design has evolved over the decades. Nordon retains and develops this industry knowledge and combines it with skilled labour force and modern manufacturing techniques to meet and foresee the industry needs.

Our Vision:

'to be a united global solution provider, supplier, customer and employer of choice within the industries we serve'.

Since 2006, Nordon provides the industry leading NI Industrial range of cylinders. This range is the only industrial roundline welded cylinder product that offers a complete range of standard mounting and accessories to provide clients with limitless range options. Featuring high grade cast and machined steel mounts which are held in stock, the NI range offers designers a standard product to incorporate within their designs. A comprehensive catalogue, access to 3D CAD models and unparalleled engineering support ensures that Nordon are able to provide all your cylinder requirements.

Nordon Warranty

Nordon Hydraulics Pty Ltd (the manufacturer) warrants that the products covered by this contract conform to any applicable drawings and specifications accepted in writing by Nordon Hydraulics and will be free from any defects in material and workmanship for a period of 12 months from the date of shipment.

If, within that period, Nordon Hydraulics receives from a Buyer written notice of any alleged defect in or non-conformance of any product, and if, in Nordon Hydraulics sole judgement the product does not conform or is found to be defective in material or workmanship, then the Buyer shall, at Nordon Hydraulics request, return the part or product to Nordon Hydraulics factory free from any freight or handling costs.

Nordon Hydraulics, at its option and expense, shall repair or replace the defective part or product, or repay to the Buyer the full price paid for such part or product by the Buyer. Nordon Hydraulics sole responsibility and Buyer's exclusive remedy hereunder shall be limited to such repair, replacement, or repayment of the purchase price as above provided.

There are not other warranties, express, statutory or implied, including those of merchantability and of fitness for purposes; nor any affirmation of factor or representation, which extends beyond the description of the face hereof.

The Warranties of Nordon Hydraulics do not cover; and Nordon Hydraulics makes no warranty with respect to:

1. Failures not reported to Nordon Hydraulics within the warranty period specified above.
2. Failures of damage due to misapplication abuse improper installation, abnormal condition of temperature, water, dirt or corrosive matter and pressure washing of painted components.
3. Failures due to operation above rated capacities or in otherwise improper manner.
4. Products, which have been in any way tampered with, altered by anyone other than an authorised representative of Nordon Hydraulics.
5. Products damaged in shipment or storage or otherwise fault of Nordon Hydraulics; and labour and or material expenses incurred by Buyer which related in any manner to any alleged defective Products unless Buyer incurs such expenses under express written authorisation from Nordon Hydraulics.

Nordon Cylinders

Quality Cylinder Manufacturer

Nordon Cylinders is a quality assured company and is proud of our reputation for manufacturing excellence. By using only the best quality materials, equipment and labour we can boast a performance and product life that makes other cylinder manufacturers envious. When specifying a Nordon Cylinder you can take comfort in your choice of the premium Australian made hydraulic cylinder.

Quality Materials

- Very high corrosion resistance Hiperchrome European shaft with chrome thickness of 20um, corrosion resistant ISO 10.289: 200 hours rating ≥ 9 .
- Induction hardened and 4140 shaft also available to provide for a wider range of applications.
- SRB, SSID and honed 520 Mpa ST52 tube
- Nordon Cylinders predominantly uses internationally available Hallite seals throughout it's range. This ensures quality performance and availability of replacement seals worldwide.
- Finished in quality black 2 Pack polyurethane paint

Quality Product Range

- Standard range from 1.5" to 5" bore provides a greater choice for less expense.
- Special range includes bores from 1.5" to 10" bore and strokes to 5m and beyond
- Custom specific cylinder manufacturing by consultation

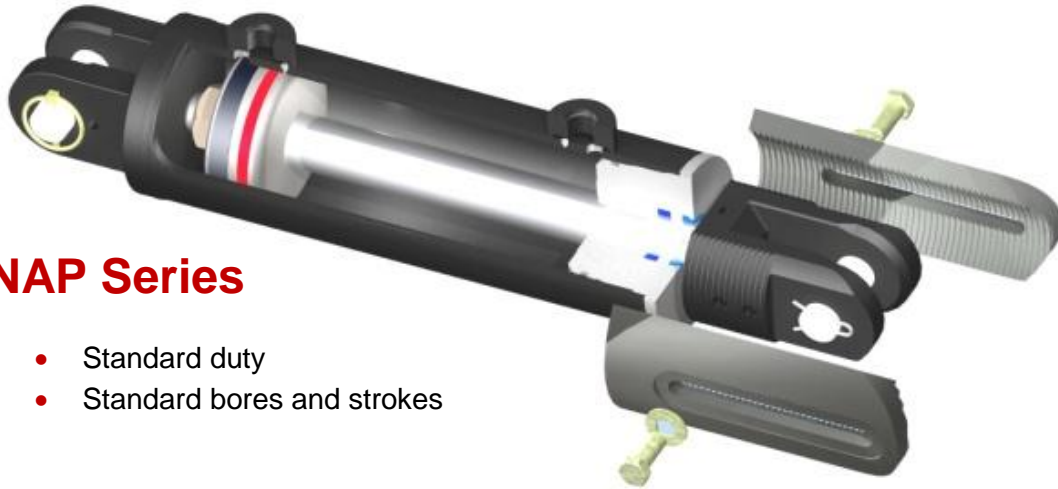
Quality Processes

- ISO 9001:2008 Quality Assured and Certified.
- Every cylinder manufactured by Nordon Cylinders is quality tested for integrity.
- Unique batch serial number identification tracking system for the life of the cylinder.

Phasing Cylinders

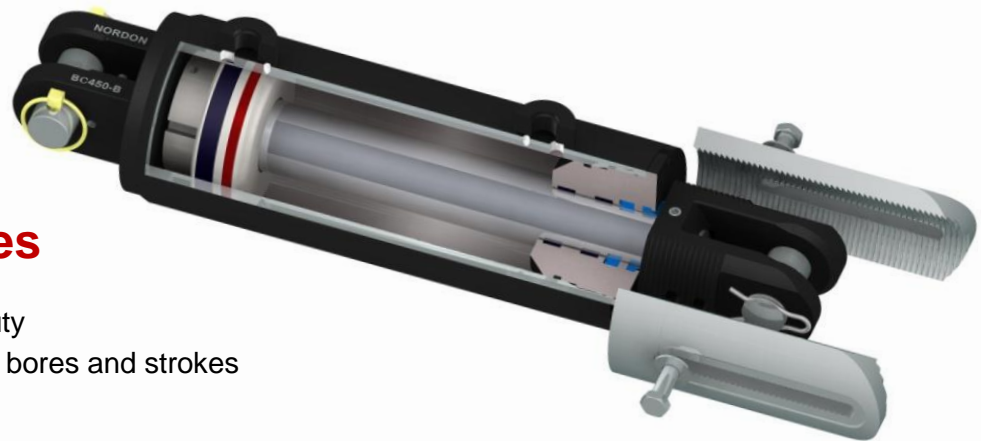
NAP Series

- Standard duty
- Standard bores and strokes



NHP Series

- Heavy duty
- Standard bores and strokes

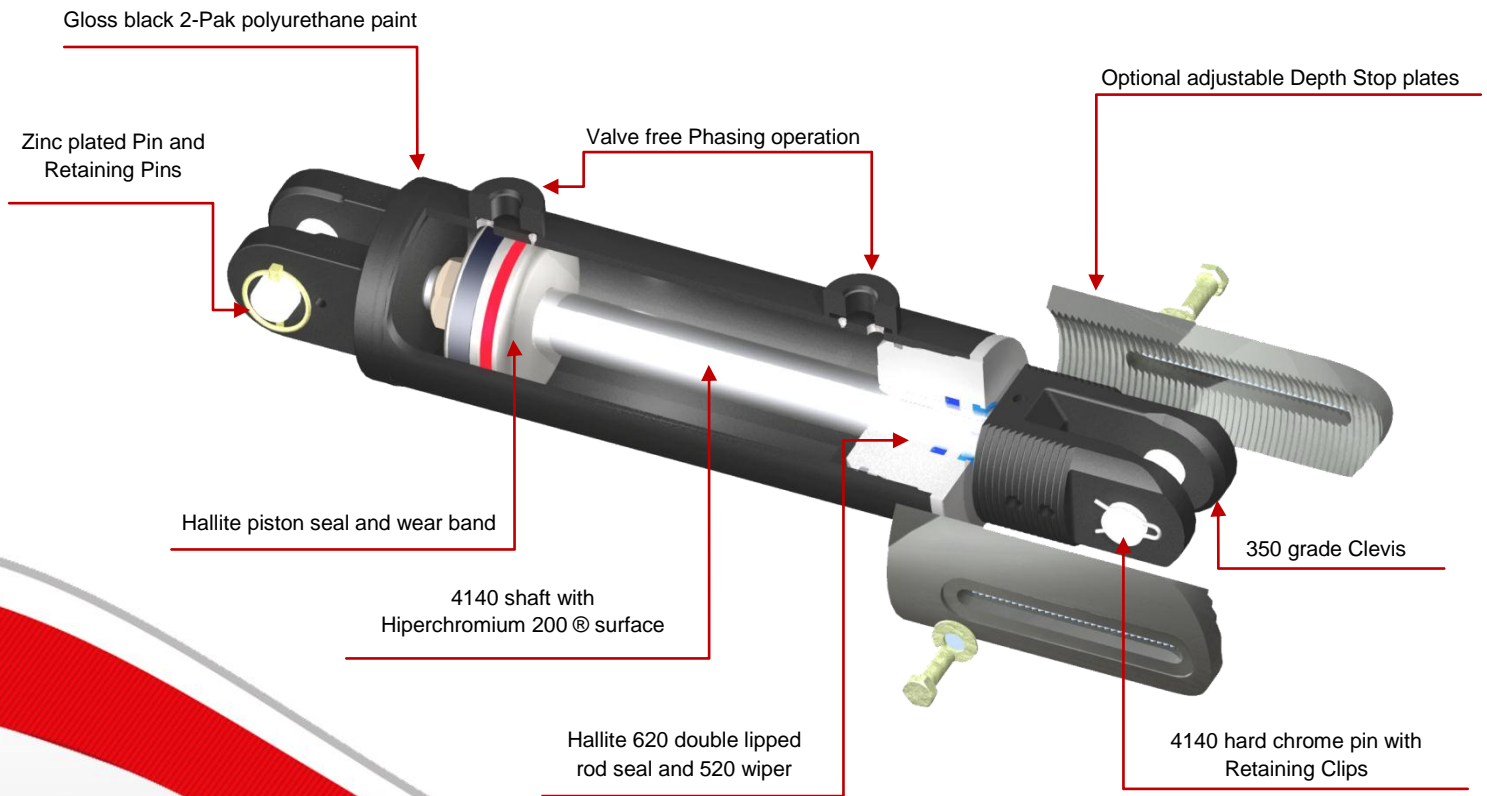


NIP Series

Configured standard or heavy duty using any applicable Nordon or client specific mountings and non standard stroke lengths

NAP Series

Strokes ahead of the Rest



Nordon Quality

Nordon exclusive re-phasing ports:

No valves to be affected by contamination and no grooves across the piston seal to cause wear.

High quality skived and roller burnished tube:

0.1micron RA surface finish results in extended seal life.

4140 High Tensile shaft:

more than double the tensile and shear strength of standard shafts.

4140 hard chromed plated rod clevis pins:

greater wear resistance where it is needed most

Hiperchrome 200® hard chrome plating:

200 hours rating 9 corrosion certification mean enhanced corrosion protection

Hallite 620 double lipped rod seal:

Improved sealing performance over a wider range of operating conditions.

Hallite 520 rod wiper:

Enhanced rod wiping performance and durability.

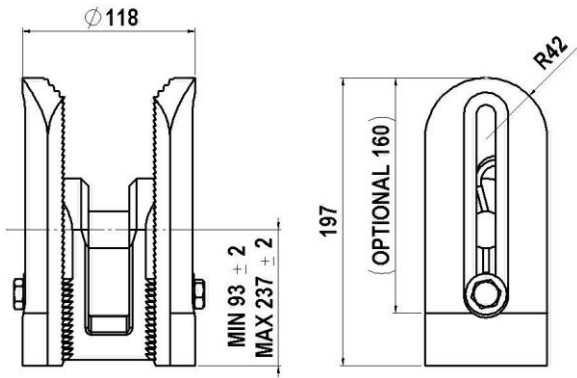
350 grade cast steel clevises:

Provides greater strength and accuracy

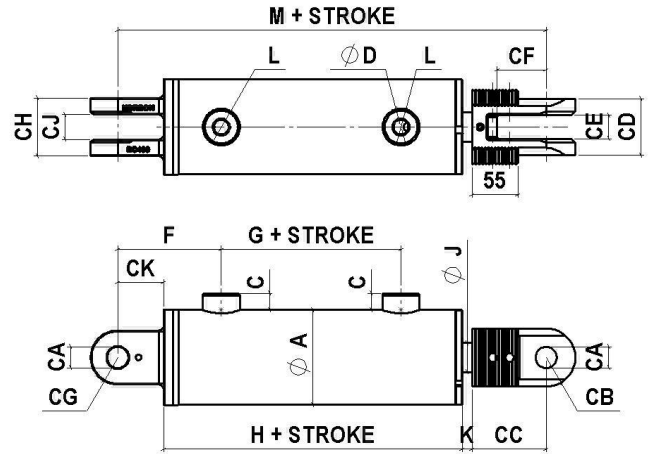
Available Specifications

Bore	from 3" to 5" in 1/4 " increments
Stroke	8", 12", 16" and 18"
Mounts	Female Clevis (both ends)
Depth Stop	from 3.5" to 5" bores
Max Pressure	200* Bar
Max Diff Pressure	160 Bar
Min System Flow	20 ltrs per min
Speed	0.25 meters per second
Duty	Medium
Colour	Gloss Black 2 Pack

Nordon Cylinders 15 Johnstone Road, Brendale Qld 4500 Phone 07 3889 6522 www.nordoncyl.com.au



DEPTH STOP PLATE KIT
Not available in 3.0" and 3.25" Bore



Only Nordon Phasing Cylinders can be fitted with a depth stop kit at any time without the need to change the rod clevis.

The Depth Stop Clevises have 4mm pitch on depth engagement teeth allowing for finer adjustment than other products.

Depth stop kits are available in 160mm and 200mm lengths and give extended adjustments range for those who need it.

Bore dia	Rod Buckle Max differential piston pressure	
	Stroke	
	16"	18"
3.0"	155	132
3.25"	134	113
3.5"	115	97
3.75"	147	124
4.0"	129	108
4.25"	115	96
4.5"	144	122
4.75"	130	109
5.0"	117	99

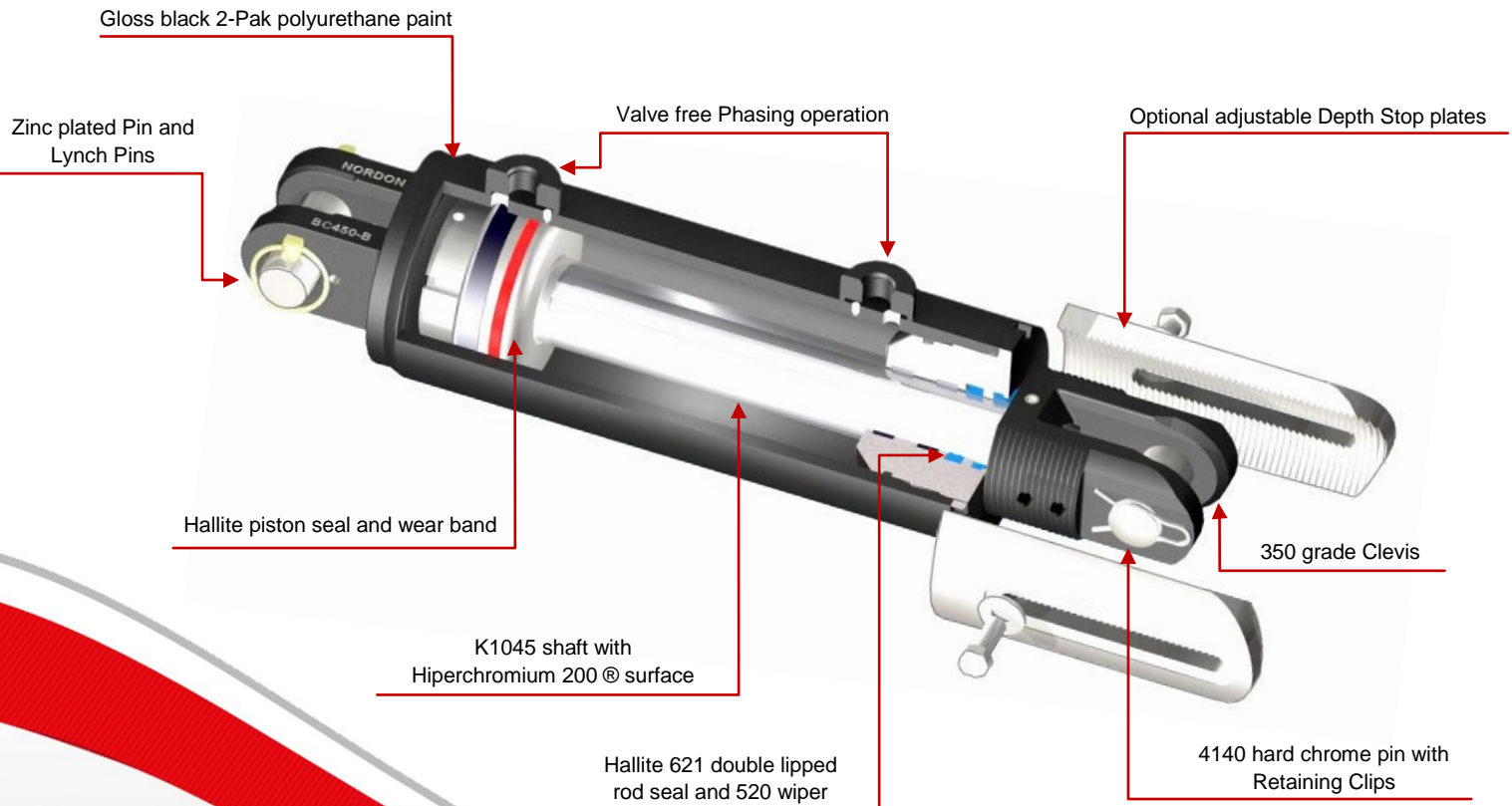
Please Contact the Sales Office on 07 3889 6522 for requirements outside of these specifications

Bore dia	Dimensional Data: Closed Centre = 311mm plus Stroke																			
	A	C	D	F	G	H	J	K	L	M	*CA	CB	CC	CD	CE	CF	CG	CH	CJ	CK
3.0"	89	20	45	115	12	145	1.25"	40	3/4 UNO	311	1"	28	75	64	28	45	25	62	28	51
3.25"	95	20	45	119	12	145	1.25"	36	3/4 UNO	311	1"	28	75	64	28	45	33	70	30	55
3.5"	102	20	45	119	13	150	1.25"	17	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
3.75"	108	20	45	124	13	150	1.375"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
4.0"	114	20	45	124	13	150	1.375"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
4.25"	121	20	45	124	13	150	1.375"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
4.5"	127	20	45	124	13	150	1.5"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
4.75"	133	20	45	124	13	150	1.5"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55
5.0"	140	20	45	124	13	150	1.5"	12	3/4 UNO	311	1"	35	89	68	28	59	33	70	30	55

Option - 1.25" pins on 3.5" to 5" bore. D9 tolerance on pin holes

NHP Series

Strokes ahead of the Rest



Nordon Quality

Nordon exclusive re-phasing ports:

No valves to be affected by contamination and no grooves across the piston seal to cause wear.

High quality skived and roller burnished tube:

0.1micron RA surface finish results in extended seal life.

4140 hard chromed plated rod clevis pins:

greater wear resistance where it is needed most

Hiperchrome 200 @ hard chrome plating:

200 hours rating 9 corrosion certification mean enhanced corrosion protection

Hallite 621 double lipped rod seal:

Improved sealing performance over a wider range of operating conditions.

Hallite 520 rod wiper:

Enhanced rod wiping performance and durability.

350 grade cast steel clevises:

Provides greater strength and accuracy

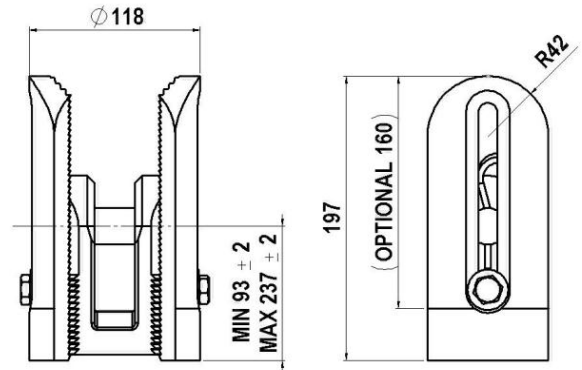
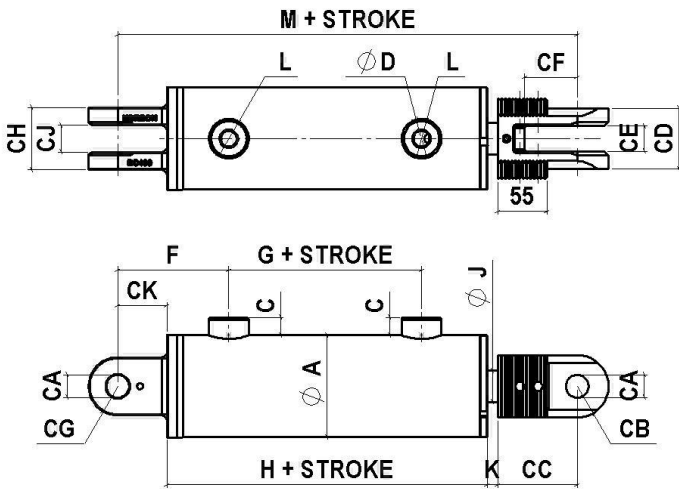
Available Specifications

Bore	from 3" to 5" in 1/2 " increments
Stroke	8", 12", 16" and 18"
Mounts	Female Clevis (both ends)
Depth Stop	from 3.5" to 5.5" bores
Max Pressure	200* Bar
Max Diff Pressure	160 Bar
Min System Flow	20 ltrs per min
Speed	0.25 meters per second
Duty	Heavy
Colour	Gloss Black 2 Pack

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Phone 07 3889 6522

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DEPTH STOP PLATE KIT
Not available in 3.0" and 3.25" Bore

Only Nordon Phasing Cylinders can be fitted with a depth stop kit at any time without the need to change the rod clevis.

The Depth Stop Clevises have 4mm pitch on depth engagement teeth allowing for finer adjustment than other products.

Depth stop kits are available in 160mm and 200mm lengths and give extended adjustments range for those who need it.

Bore dia	Dimensional Data: Closed Centre = 311mm plus Stroke																			
	A	C	D	F	G	H	J	K	L	M	*CA	CB	CC	CD	CE	CF	CG	CH	CJ	CK
3.0"	90	20	45	124	12	150	1.5"	18	3/4 UNO	311	1.25"	35	75	64	28	59	33	70	30	55
3.5"	102	20	45	124	12	155	1.75"	12	3/4 UNO	311	1.25"	35	89	68	28	59	33	70	30	55
4.0"	114	20	45	124	12	155	2.0"	12	3/4 UNO	311	1.25"	35	89	68	28	59	33	70	30	55
4.5"	134	20	45	122	13	163	2.0"	4	3/4 UNO	311	1.25"	35	89	68	28	59	33	70	30	55
5.0"	146	20	45	122	11	163	55mm	4	3/4 UNO	311	1.25"	35	89	68	28	59	33	70	30	55
5.5"	159	20	45	122	11	163	2.25"	4	3/4 UNO	311	1.25"	35	89	68	28	59	33	70	30	55

D9 tolerance on all pins

NIP Series

Strokes ahead of the Rest



Nordon Quality

Nordon exclusive re-phasing ports:

No valves to be affected by contamination and no grooves across the piston seal to cause wear.

High quality skived and roller burnished tube:

0.1micron RA surface finish results in extended seal life.

K1045 or 4140 High Tensile shaft

4140 hard chromed plated rod clevis pins:

greater wear resistance where it is needed most

Hiperchrome 200 @ hard chrome plating:

200 hours rating 9 corrosion certification mean enhanced corrosion protection

Hallite 620/621 double lipped rod seal:

Improved sealing performance over a wider range of operating conditions.

Hallite 520 rod wiper:

Enhanced rod wiping performance and durability.

350 grade cast steel clevises:

Provides greater strength and accuracy

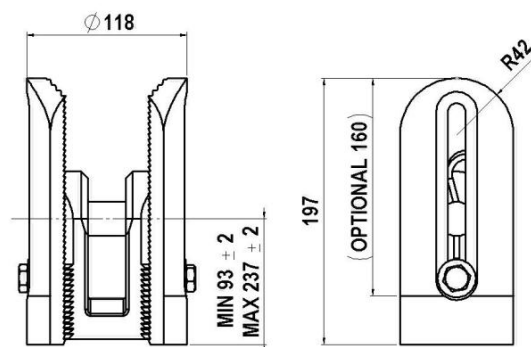
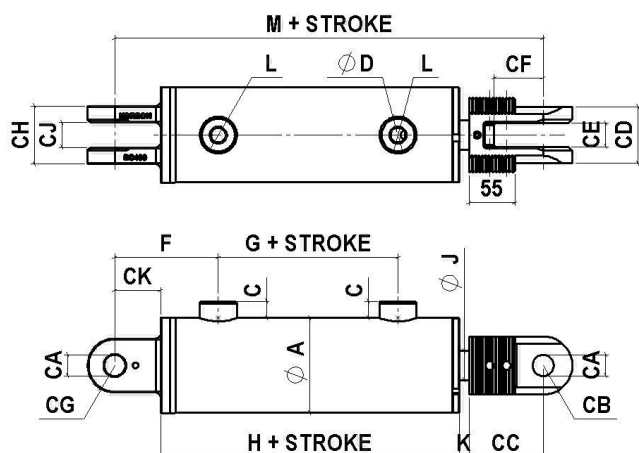
Available Specifications

Bore	from 3" to 5.5" in 1/4 " increments
Stroke	Up to 5 meters and beyond
Mounts	Female Clevis Spherical Bearings Pin Eye Male lug Trunion
Depth Stop	from 3.5" to 5.5" bores
Max Pressure	200* Bar
Max Diff Pressure	160 Bar
Min System Flow	20 ltrs per min
Speed	0.25 meters per second
Duty	Heavy
Colour	Gloss Black 2 Pack

NIP Technical Specifications

Strokes ahead of the Rest

Refer to Specification drawings for dimensions on the full range of options within the NI Series



DEPTH STOP PLATE KIT

Not available in 3.0" and 3.25" Bore



Nordon NIP Series

Nordon provides the industry leading NI Industrial Phasing range of cylinders - the first and still the only roundline cylinder manufactured in Australia. This range is the only industrial cylinder product that offers a complete range of standard mounting and accessories to provide clients with limitless range options.

Featuring high 350 grade steel castings and machined steel mountings which are held in stock, the NI range offers designers a standard product to incorporate within their designs.

Depth Stops

Only Nordon Phasing Cylinders can be fitted with a depth stop kit at any time without the need to change the rod clevis. The Depth Stop Clevises have 4mm pitch on depth engagement teeth allowing for finer adjustment than other products. Depth stop kits are available in 160mm and 200mm lengths and give extended adjustments range for those who need it.

Nordon 3D Design Services

Nordon provide clients with access to accurate 3D models for our extensive range of NIP cylinders. These models can be used by engineers and designers during the design stages to ensure that the specific hydraulic performs as required for the specified application. These models can be easily modified to achieve the required stroke, open and close measurements.

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Hydraulic Phasing Cylinders

NORDON CYLINDERS
Australia

Part Numbers

Nordon Cylinders utilises a unique part numbering system that provides comprehensive and unmistakable reference for each and every part.

NAP Part Numbering Code

NAP - 35 - A - 12 - C12 - P2

PREFIX

Nordon Agricultural Phasing

BORE

Bore sizes in inches. Available from 3" to 5" bore.
For example: 3" = 30, 3.25" = 325, 3.5" = 35

PORT POSITION

Port Position A – Standard and held in stock
Port Position B – Not standard or held in stock

STROKE

Stroke lengths in inches. Available as 8", 12", 16" or 18"
For other lengths please refer to NIP Series

PINS

C12 code for 1.25" pins with 3.5" to 5" bore
Omit if 1" pins are required.

DEPTH STOP PLATES

Available for 3.5" to 5" bore cylinders.
P1: 160mm length plates
P2: 200mm length plates
Omit is not required.

NHP Part Numbering Code

NHP - 35 - A - 12 - P2

PREFIX

Nordon Heavy Duty Phasing

BORE

Bore sizes in inches. Available from 3" to 5.5" bore.
For example: 3" = 30, 3.25" = 325, 3.5" = 35

PORT POSITION

Port Position A – Standard
Port Position B – Not standard

STROKE

Stroke lengths in inches. Available as 8", 12", 16" or 18"
For other lengths please refer to NIP Series

DEPTH STOP PLATES

Available for 3.5" to 5.5" bore cylinders.
P1: 160mm length plates
P2: 200mm length plates
Omit is not required.

NIP Part Numbering Code

NIP – 35 S – C1 S – A S – 1000 S – R13 S – C1 S – R – S4

PHASE

R: Rod Phase
B: Base Phase
Omit if phase both ends

ROD MOUNT - Special

S: special or modified rod mount

ROD MOUNT

Rod Mount Code

ROD - Special

S: Special rod conditions

ROD DIAMETER

Rod diameter in inches
For example: 3" = R30, 3.25" = R325, 3.5" = R35
NIP Series has a standard rod size for each bore size.
Always include the rod code.

STOP TUBE

Specify length in description. Must use for oversized port holes (on application)

STROKE

Stroke in mm (do not include mm in part number)
Specify as 4 digits eg: 203mm stroke = 0203

PORT TYPE

U: Standard port
S: other ports (on application)

PORT POSITION

A: Standard A or B position
X: other positions

BASE MOUNT - Special

S: special or modified rod mount

BASE MOUNT

Base Mount Code

TUBE SURFACE

S: SRB (skived and roller burnished). No SSID to be used.

BORE

Bore sizes in inches. Available from 3" to 5.5" bore. For example: 3" = 30, 3.25" = 325, 3.5" = 35

PREFIX

Nordon Industrial Phasing

SPECIAL

Special modifications or depth stops plates to be noted here that have not been noted in other areas. Order depth stop plates separately (not painted)