







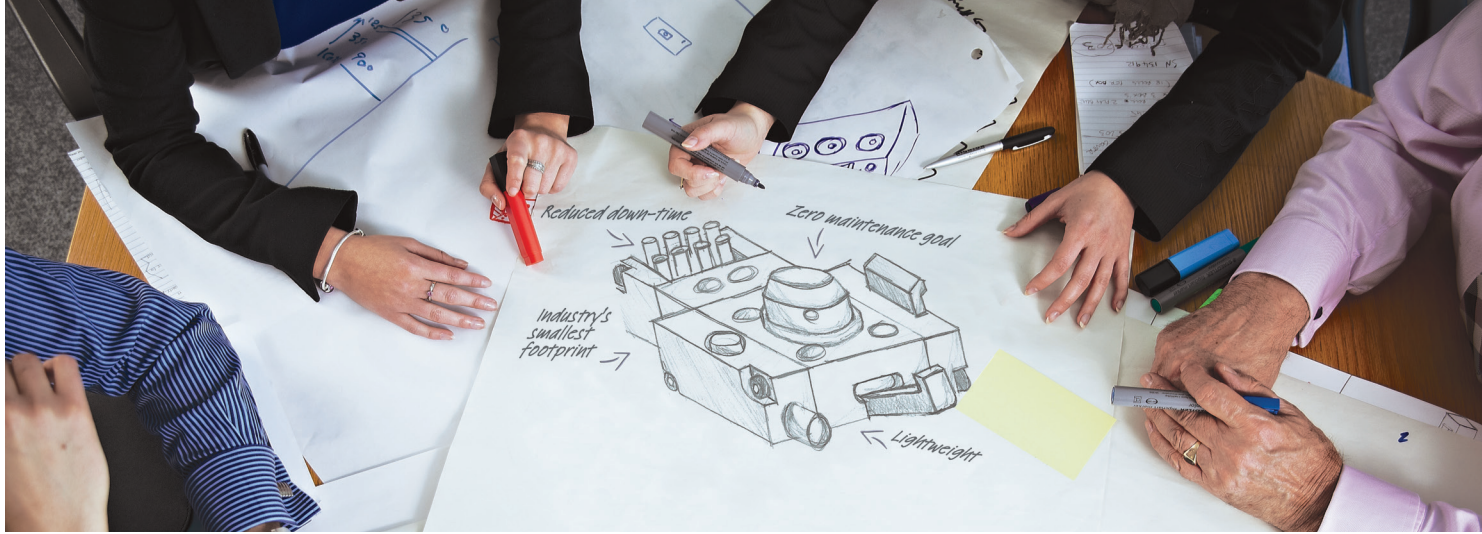
Vacuum Cups

Optimize sheet metal material transfer

<https://materialhandling.norgren.com/en>

Contents

1		ROUND FLAT	08 FAST FIND GUIDE
2		ROUND BELLOW	14 FAST FIND GUIDE
3		OVAL FLAT	20 FAST FIND GUIDE
4		OVAL BELLOW	26 FAST FIND GUIDE



Breakthrough Engineering for a Better World

Norgren is part of global engineering organisation IMI plc. IMI is at the forefront of delivering the solutions we need in a changing world and is focused on **creating tremendous value by solving key industry problems** in attractive markets and employing the best.

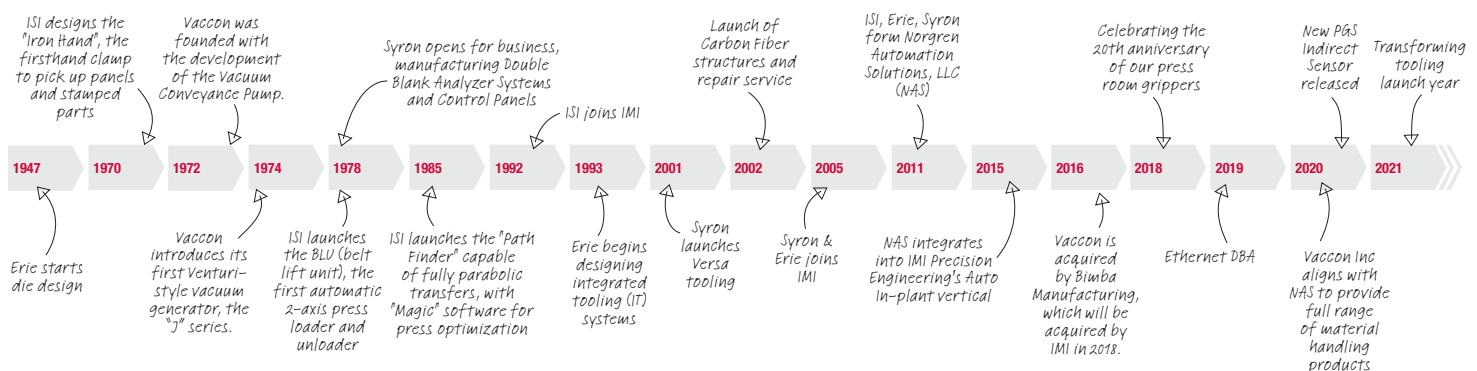
Norgren has a proud history of creating innovative engineering solutions in precise motion control and fluid technology, and we collaborate with our customers across more than 50 countries in critical areas such as Factory Automation, Material Handling, Rail, Energy, Process Control, Life Science and Commercial Vehicles.

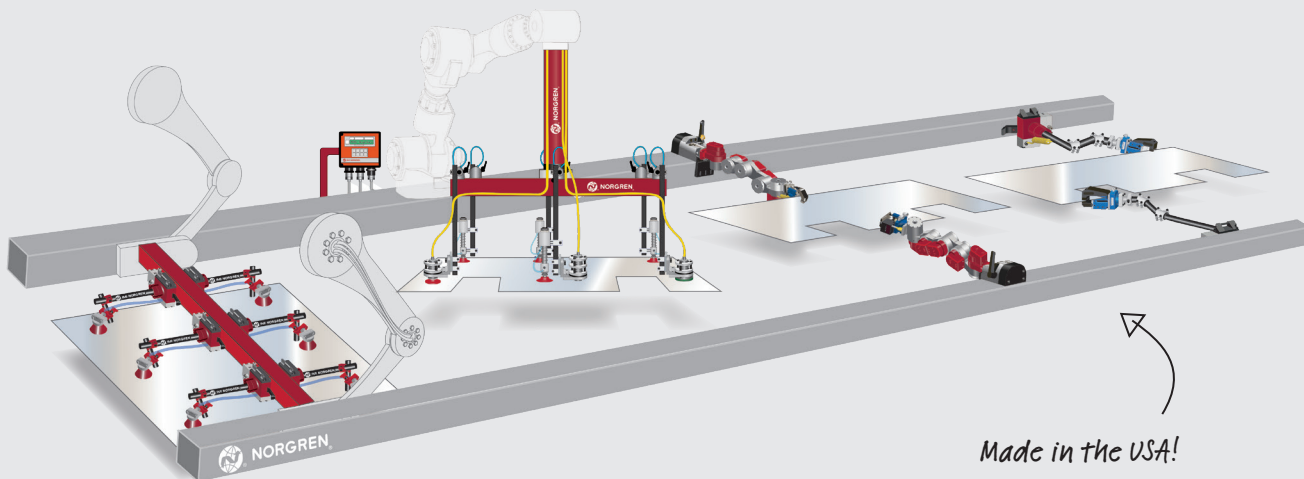
From improving speed, productivity, reliability and efficiency of equipment, to generating significant energy and cost savings, or lowering total cost of ownership across many industries, Norgren's high-quality solutions are designed to help customers pursue progress, achieve new goals and overcome problems.

Our world-class portfolio of fluid and motion control products include Norgren, Bimba, Buschjost, FAS, Herion, Kloehe and Maxseal. Supplied either individually or combined into powerful customised solutions to meet customer needs.

With market-leading industry expertise, we offer the capability, resources, engineering intelligence and global support infrastructure to tackle the largest project demands.

Breakthrough engineering you can count on.





Made in the USA!

How we deliver value to our customers

Partnerships & problem solving

We have a global team of key account managers and over 400 highly experienced engineers – many with in-depth expertise of key industry sectors.

We recruit and develop the industry's top talent, offering the best training and exposure to world-class products and technologies with some of the world's leading businesses. The deep and combined experience this gives us means we have the skills, confidence and know-how to get closer to our customers, enabling us to understand their exact challenges and resolve them precisely.

Because of this our problem-solving is more effective, our solutions more targeted, our partnerships more productive.

High performance products

Our world-class products improve performance and productivity.

We have global manufacturing capability and technical centres of excellence, each dedicated to developing and rigorously testing new high performance products to meet precise industry and application needs. Helping improve performance and reduce downtime and energy consumption on production lines across the world, our world-class portfolio includes IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal. Having proven their value over years, they stand amongst the most trusted names in fluid and motion control. We are continuously adding to this portfolio through a programme of innovation and new product development.

Because of this, we're able help our customers solve the world's greatest engineering challenges – reliably, safely and efficiently.

Reliability

We deliver and support our high quality products through our global service network.

We have world-class manufacturing and sales and service operations in 50 countries, supported by investment in robust project management systems and lean localised production. Together, with our integrated supply chain, and the speed of our Express service we have the systems, processes and support to deliver quality products and aftersales service precisely, reliably, in full and on time, anywhere.

We get closer to our customers to understand their exact challenges

Our Global Reach

With established manufacturing facilities globally, we have the capability to cope with the most demanding of international projects. With a sales and service network in 50 countries, we have the reach and capability to ensure continuity of supply and local support where it is needed.

Global Locations and Partners

Norgren – Material Handling Locations

USA

Norgren Automation Solutions, LLC (NAS)
2871 Bond Street
Rochester Hills, MI 48309 USA
Tel: 1-800-272-4511
Fax: 1-734-429-2981
Email: NASInsideSales@imi-precision.com
Web: www.materialhandling.norgren.com/en

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Web: www.materialhandling.norgren.com/en

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UK

Birmingham, UK

Barcelona, SP

Spain

Auburn, WA

University Park, IL
Littleton, CO

Las Vegas, NV

Saline, MI

Rochester Hills, MI

Farmington, CT

Mexico

Querétaro, MX

South America

Sao Paulo, BR

Sales & Service

📍 Norgren sales, manufacturing and technical centers

🏭 Norgren Material Handling locations

China

Norgren Co., Ltd

埃迈诺冠商贸(上海)有限公司.

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sales@imi-precision.com.cn

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Email: spain@imi-precision.com

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Norgren Co., Ltd

120/34 M. 12 Rachadhewa, Bangplee

Samutprakarn

10540 Thailand

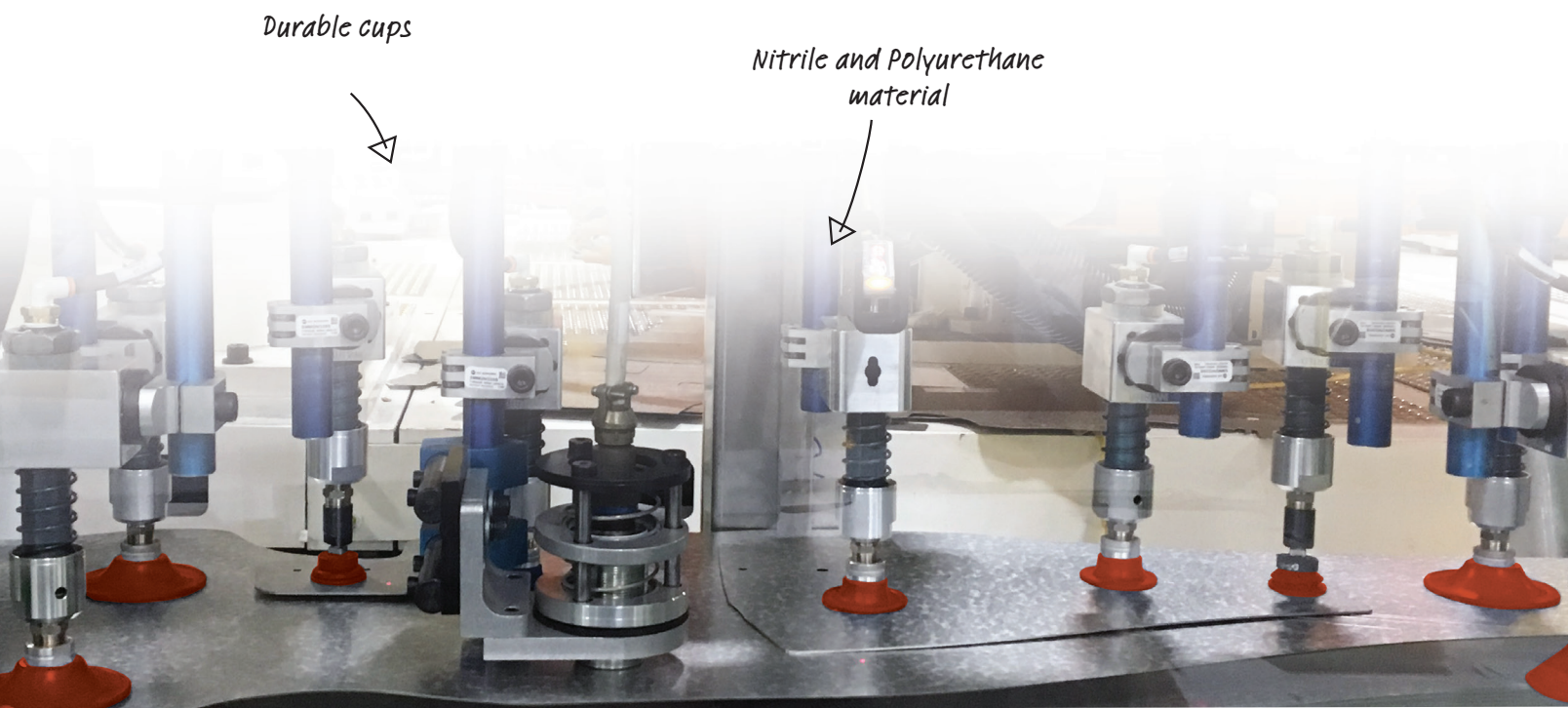
Tel: +66 (0) 2 2750 3598

Fax: +60 (0) 2 750 3855

Email: THSales@imi-precision.com



[Round Flat]



Durable cups





Nitrile and Polyurethane material



*Wide range of sizes and fittings
slip resistant including oily surfaces*



Round Flat

<p>Nitrile</p>  <p>Pages 12</p>	<p>Polyurethane</p>  <p>Pages 14</p>
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1 NITRILE SERIES



Nitrile Round Flat (NRF)

- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in both 45 and 60 durometer materials
- » Round cups are ideal for sheet metal with different thickness and shapes

Application

- » Ideal for sheet metal handling including oily stamping applications
- » Applicable for glass, plywood and other stamping materials

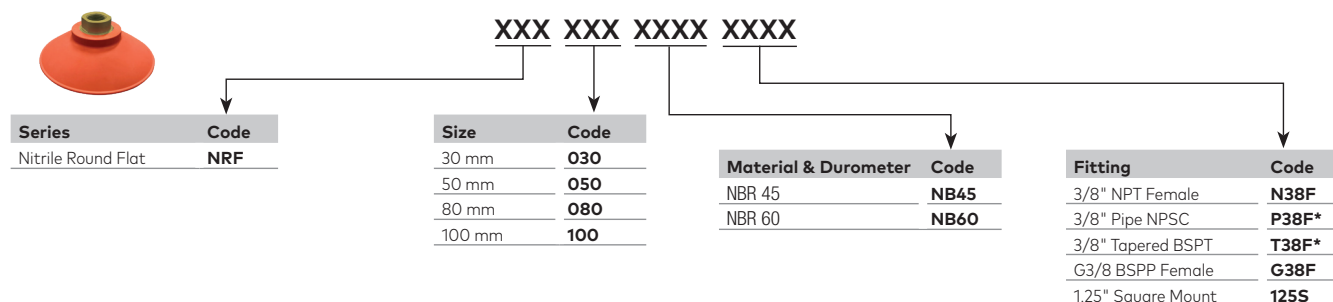


Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Nitrile	-20 ~ +110	-10 ~ +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



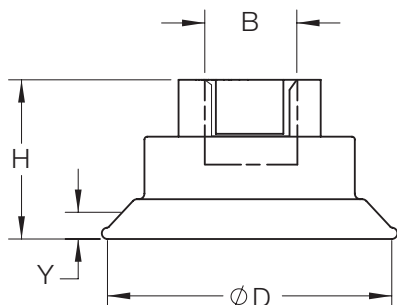
Technical parameters

Size	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force N (oily surface)	Inner volume (cm³)	Minimum curve radius of cup (mm)	Recommended hose diameter (mm)	Weight (g)
NRF030	45	35	33	1.6	35	6	13
NRF050	112	90	86	7.5	70	8	24
NRF080	288	212	190	35	11	8	52
NRF100	445	322	308	60	141	8	68

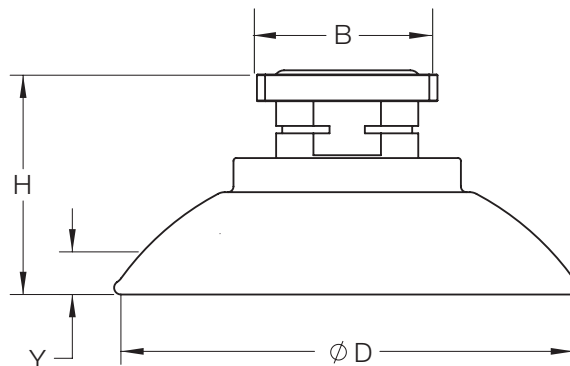
Note: Vacuum level is -60kPa. The pull-out forces above are specified without any safety factors. The value changes based on different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

Dimensions (mm)



Cup with Female
Thread Fitting



Cup with Square
Mount Fitting

Technical parameters

Norgren Part Number	Durometer Shore A XX	D Cup Diameter (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
NRF030NBXXG38F	45/60	32	2.7	33.5±1	3/8 BSPP Female
NRF030NBXXN38F				33.5±1	3/8 NPT Female
NRF030NBXX125S				38.2±1	Square Mount
NRF050NBXXG38F	45/60	52	4.7	28±1	3/8 BSPP Female
NRF050NBXXN38F				28±1	3/8 NPT Female
NRF050NBXX125S				32.7±1	Square Mount
NRF080NBXXG38F	45/60	82	6.0	34±1	3/8 BSPP Female
NRF080NBXXN38F				34±1	3/8 NPT Female
NRF080NBXX125S				38.7±1	Square Mount
NRF100NBXXG38F	45/60	102	9.2	36±1	3/8 BSPP Female
NRF100NBXXN38F				36±1	3/8 NPT Female
NRF100NBXX125S				40.7±1	Square Mount

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts



Polyurethane Round Flat (PRF)

- » Large stroke and great flexibility, easy to fit close to workpiece with various shapes
- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Modular structure design rated for quick evacuation and increasing strokes per minute
- » Polyurethane material available in 70 durometer, excellent wear resistance and oil resistance
- » Round cups are ideal for sheet metal with different thickness and shapes



Application

- » Ideal for sheet metal handling including oily stamping applications
- » Applicable for glass, plywood and other stamping materials

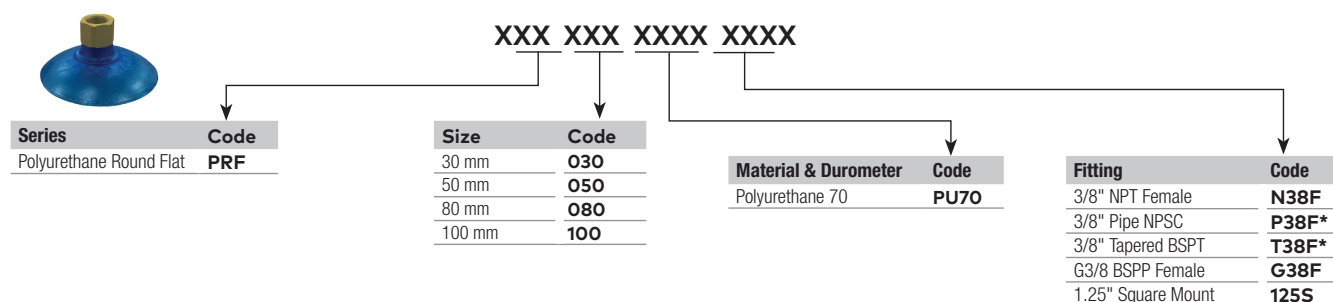


Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Polyurethane	-20 - +110	-10 - +80	●	●	●

●: Excellent ○: Meets Industry Requirements

Order information



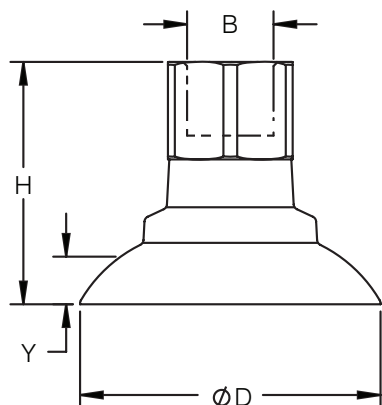
Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force N (oily surface)	Inner volume (cm³)	Minimum curve radius of workplace (mm)	Recommended hose diameter (mm)	Weight (g)
PRF30	45	35	31	4.5	25	6	4
PRF50	112	67	58	18.6	35	8	10
PRF80	285	147	134	56	60	8	25
PRF100	420	205	189	105	70	8	42

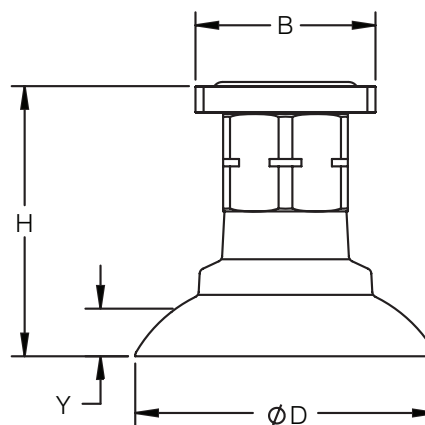
Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will change according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

Dimensions (mm)



Cup with Female
Thread Fitting



Cup with Square
Mount Fitting

Technical parameters

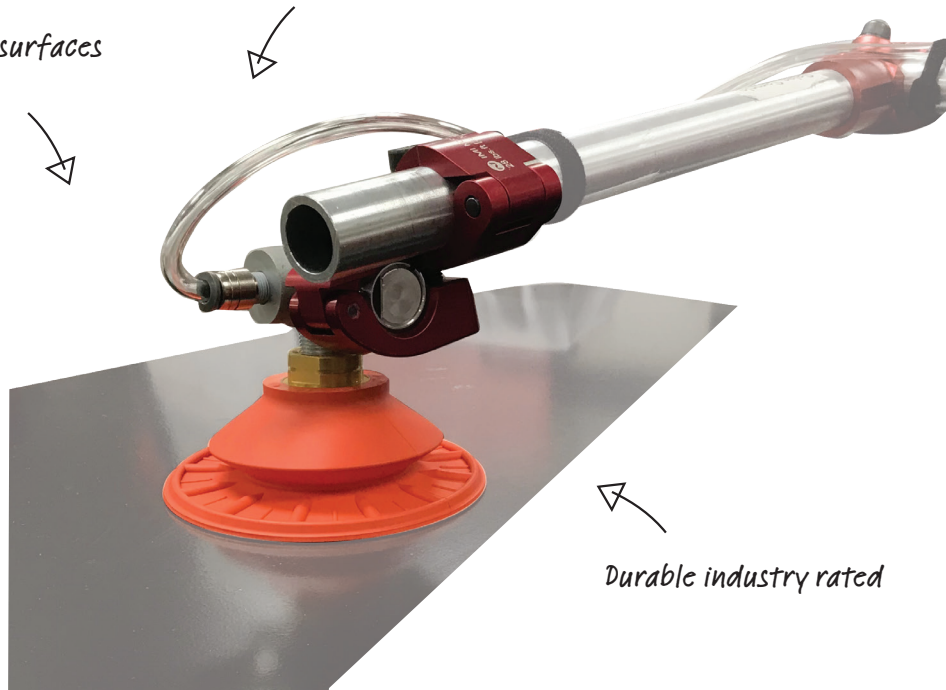
Norgren Part Number	Durometer Shore A	D Cup Diameter (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
PRF030PU70G38F	70	34	4	34.5±1	3/8 BSPP Female
PRF030PU70N38F				34.5±1	3/8 NPT Female
PRF030PU70125S				39.2±1	Square Mount
PRF050PU70G38F	70	55	7.8	42±1	3/8 BSPP Female
PRF050PU70N38F				42±1	3/8 NPT Female
PRF050PU70125S				46.7±1	Square Mount
PRF080PU70G38F	70	85	13	47±1	3/8 BSPP Female
PRF080PU70N38F				47±1	3/8 NPT Female
PRF080PU70125S				51.7±1	Square Mount
PRF100PU70G38F	70	105.5	15.5	54±1	3/8 BSPP Female
PRF100PU70N38F				54±1	3/8 NPT Female
PRF100PU70125S				58.7±1	Square Mount

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

[Round Bellow]

Ideal for uneven surfaces

Forgiving on height deviations



Durable industry rated

Round Bellow

<p>Nitrile</p>  <p>Pages 16</p>	<p>Urethane</p>  <p>Pages 18</p>
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Nitrile Round Bellow (NRB)

- » Large stroke and great flexibility, easy to fit close to workpiece with various shapes
- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in 60 durometer material
- » Ideal for sheet metal with different thickness and shapes
- » Round 1.5 Bellows cups are ideal for workpieces with uneven shapes



Application

- » Ideal for sheet metal handling including oily stamping applications
- » Ideal for parts with uneven surface
- » Applicable for glass, plywood and other stamping materials

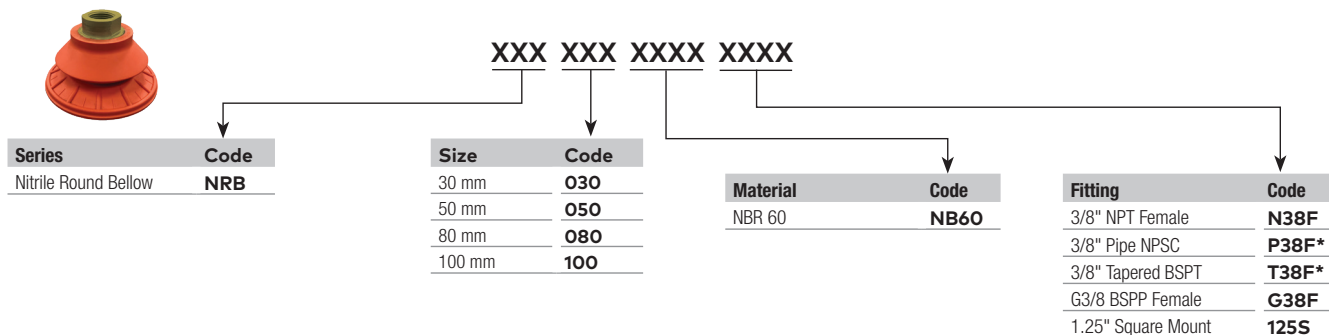


Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Nitrile	-20 ~ +110	-10 ~ +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



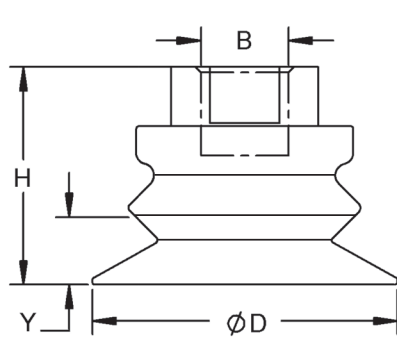
Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force (N) (oily surface)	Inner volume (cm³)	Minimum curve radius of workplace (mm)	Recommended hose diameter (mm)	Weight (g)
NRB030	35	28	12	6.3	35	6	14
NRB050	85	58	55	11.2	45	8	25
NRB080	236	141	136	57	70	8	61
NRB100	371	228	221	92	95	8	92

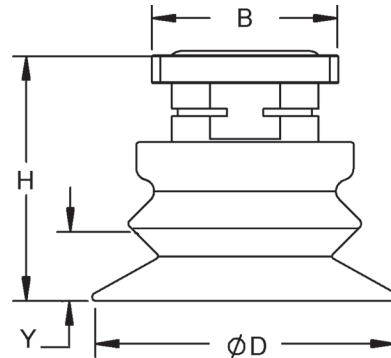
Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will changes according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

Dimensions (mm)



Cup with Female
Thread Fitting



Cup with Square
Mount Fitting

Technical parameters

Norgren Part Number	Durometer Shore A	D Cup Diameter (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
NRB030NB60G38F	60	32	9.5	42.0±1	3/8 BSPP Female
NRB030NB60N38F				42.0±1	3/8 NPT Female
NRB030NB60125S				46.7±1	Square Mount
NRB050NB60G38F	60	52	11.5	36±1	3/8 BSPP Female
NRB050NB60N38F				36±1	3/8 NPT Female
NRB050NB60125S				40.7±1	Square Mount
NRB080NB60G38F	60	82	22.5	49.5±1.5	3/8 BSPP Female
NRB080NB60N38F				49.5±1.5	3/8 NPT Female
NRB080NB60125S				54.2±1.5	Square Mount
NRB100NB60G38F	60	103	25	55±1.5	3/8 BSPP Female
NRB100NB60N38F				55±1.5	3/8 NPT Female
NRB100NB60125S				59.7±1.5	Square Mount

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will changes according to different surface conditions of workpiece.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts



Urethane Round Bellow (CVC)

- » Urethane material is a unique offering ideal for long run parts
- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in 45 durometer material
- » Round 1.5 Bellows cups are ideal for workpieces with uneven surface



Application

- » Ideal for sheet metal handling including oily stamping applications
- » Ideal for parts with uneven surface
- » Applicable for glass, plywood and other stamping materials



Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Urethane	-20 - +110	-10 - +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



XCVCX-X

Thread Type	Code
Metric	X
English	Leave Blank

Diameter	Code
1.7"	15
2.3"	2
3.3"	3
4.5"	4

Fitting	Code
1.25" Square Mount	Leave Blank
1/4 BSPP Female - 3/8 BSPP Female	P
1/4" NPT Female - 3/8" NPT Female	T

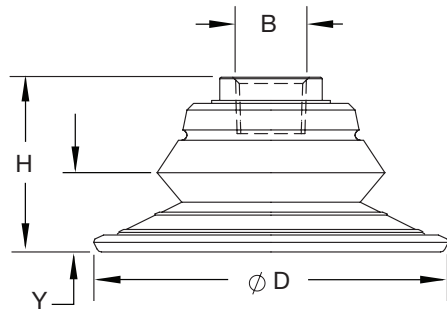
Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force (N) (oily surface)	Inner volume (cm³)	Minimum curve radius of workplace (mm)	Recommended hose diameter (mm)	Weight (g)
CVC15	40	36	31	11	40	6	26
CVC2	49	76	62	28	45	8	30
CVC3	98	151	125	45	65	8	66
CVC4	156	271	254	111	95	8	130

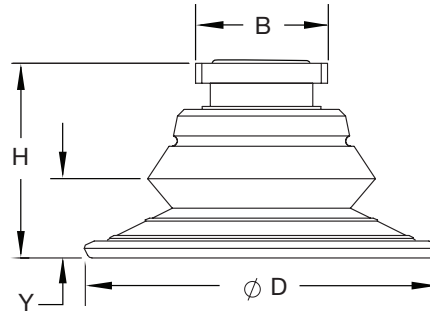
Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will change according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

Dimensions in inches (mm) are for reference only

Dimensions (mm)



Cup with Female
Thread Fitting



Cup with Square
Mount Fitting

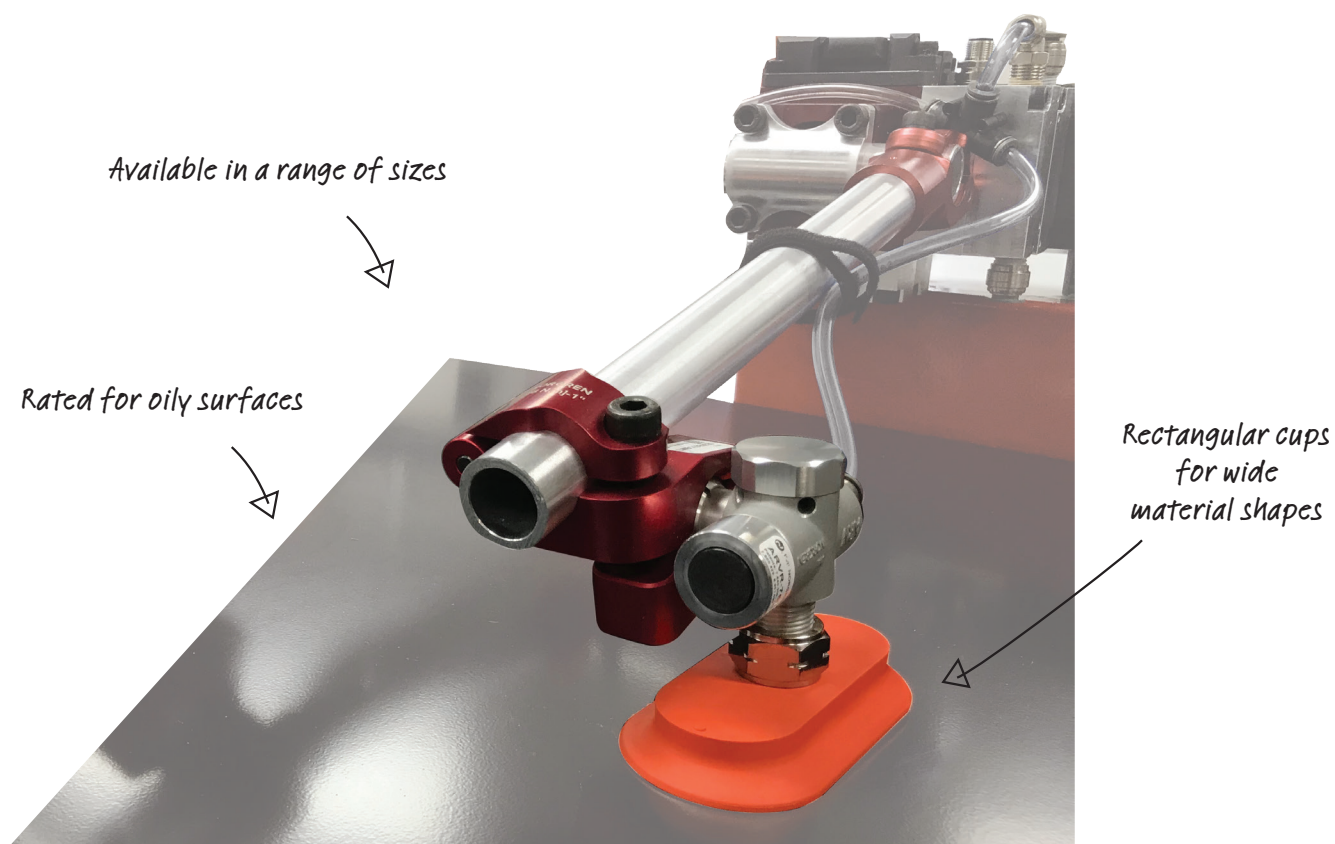
Technical parameters

Norgren Part Number	Durometer Shore A	D Cup Diameter (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
XCVC15-P	45	43	19	29±1	1/4 BSPP Female
CVC15				35±1	Square Mount
CVC15-T				29±1	1/4 NPT Female
XCVC2-P	45	59	21	37.5±1	3/8 BSPP Female
CVC2				42±1	Square Mount
CVC2-T				37.5±1	3/8 NPT Female
XCVC3-P	45	85	23	42±1	3/8 BSPP Female
CVC3				47±1	Square Mount
CVC3-T				42±1	3/8 NPT Female
XCVC4-P	45	114	26	51.7±1	3/8 BSPP Female
CVC4				56±1	Square Mount
CVC4-T				51.7±1	3/8 NPT Female

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will changes according to different surface conditions of workpiece.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

[Oval Flat]



Oval Flat

<p>Nitrile</p>  <p>Pages 22</p>	<p>Urethane</p>  <p>Pages 24</p>
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Nitrile Oval Flat (NOF)

- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in both 45 and 60 durometer material
- » Oval cups are ideal for sheet metal with different thickness and rectangular shapes

Application

- » Ideal for sheet metal handling including oily stamping applications
- » Applicable for glass, plywood and other stamping materials

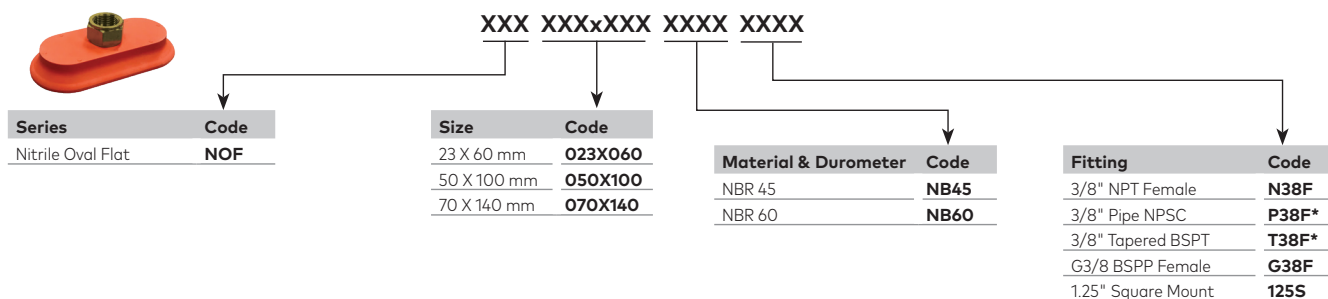


Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Nitrile	-20 - +110	-10 - +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



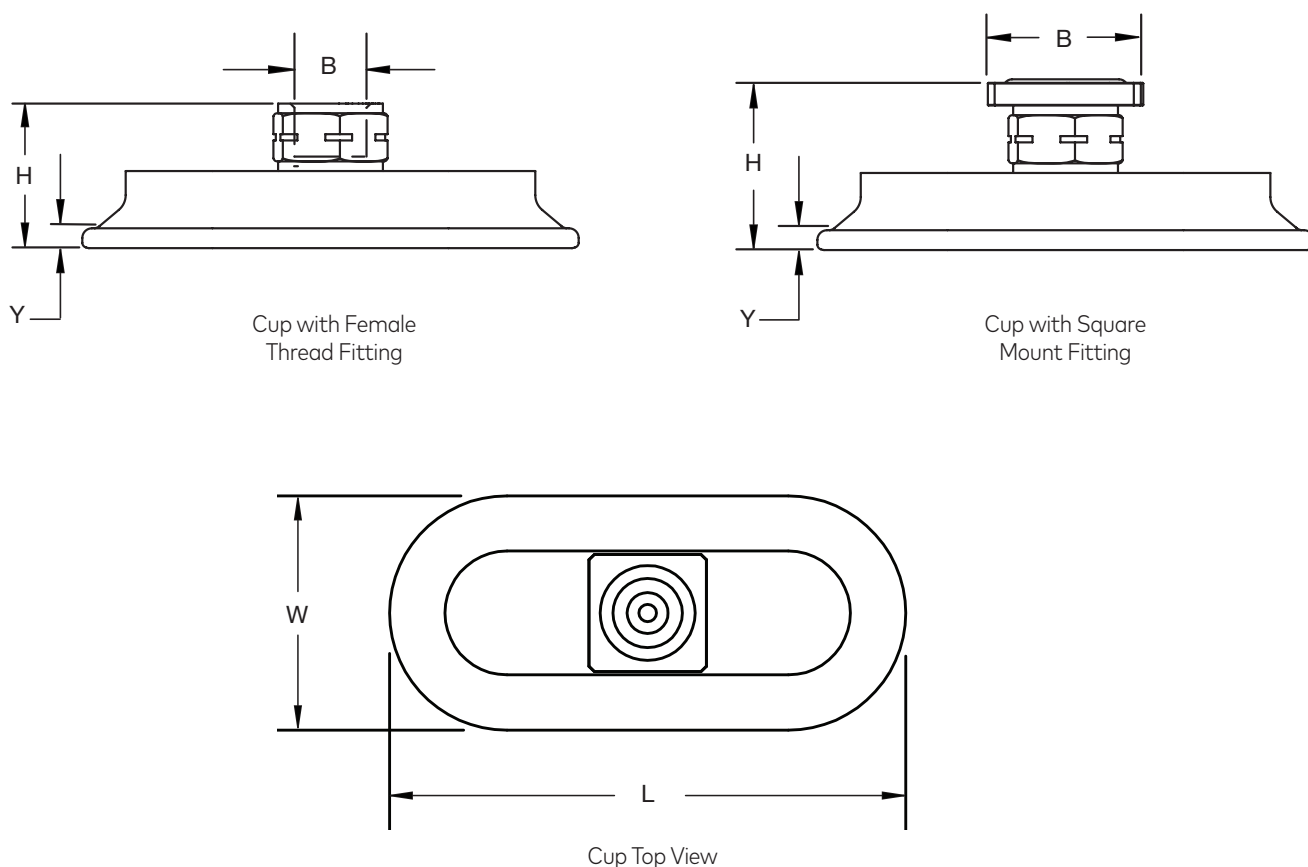
Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force N (oily surface)	Inner volume (cm³)	Minimum curve radius of work-place (mm)	Recommended hose diameter (mm)	Weight (g)
NOF023X060	57	37	33	3	72	4	29
NOF050X100	217	181	121	20	80	6	56
NOF070X140	445	344	230	52	95	8	77

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will change according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

Dimensions (mm)



Technical parameters

Norgren Part Number	Durometer Shore A XX	W Cup Width (mm)	L Cup Width (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
NOF023X060NBXXG38F	45/60	23	62	3.0	26±1	3/8 BSPP Female
NOF023X060NBXXN38F					26±1	3/8 NPT Female
NOF023X060NBXX125S					30.7±1	Square Mount
NOF050X100NBXXG38F	45/60	49	102	4.7	30±1	3/8 BSPP Female
NOF050X100NBXXN38F					30±1	3/8 NPT Female
NOF050X100NBXX125S					34.7±1	Square Mount
NOF070X140NBXXG38F	45/60	67	141	6.0	33±1	3/8 BSPP Female
NOF070X140NBXXN38F					33±1	3/8 NPT Female
NOF070X140NBXX125S					37.7±1	Square Mount

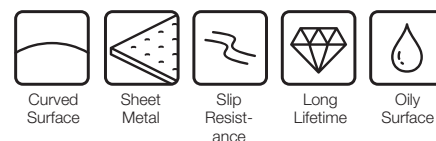
* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts



- » Urethane Oval Flat (OVC)
- » Urethane material is a unique offering ideal for long run parts
- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in 35 durometer material
- » Oval cups are ideal for sheet metal with different thickness and rectangular shapes

Application

- » Ideal for sheet metal handling including oily stamping applications
- » Ideal for parts with uneven surface
- » Applicable for glass, plywood and other stamping materials



Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Urethane	-20 ~ +110	-10 ~ +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



XOVCS-XXX

Thread Type	Code
Metric	X
English	Leave Blank

Size	Code
1.5" x 3.8"	13
1.6" x 5.0"	16
2.5" x 5.5"	25

Mount Type	Code
1.25" Square Mount	Leave Blank
3/8 BSPP Female	P
3/8" NPT Female	T

Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force N (oily surface)	Inner volume (cm³)	Minimum curve radius of work-place (mm)	Recommended hose diameter (mm)	Weight (g)
OVC513	44	69	49	15	72	8	41
OVC516	53	78	53	26	80	8	36
OVC525	71	113	85	35	95	8	118

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will changes according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

Dimensions in inches (mm) are for reference only

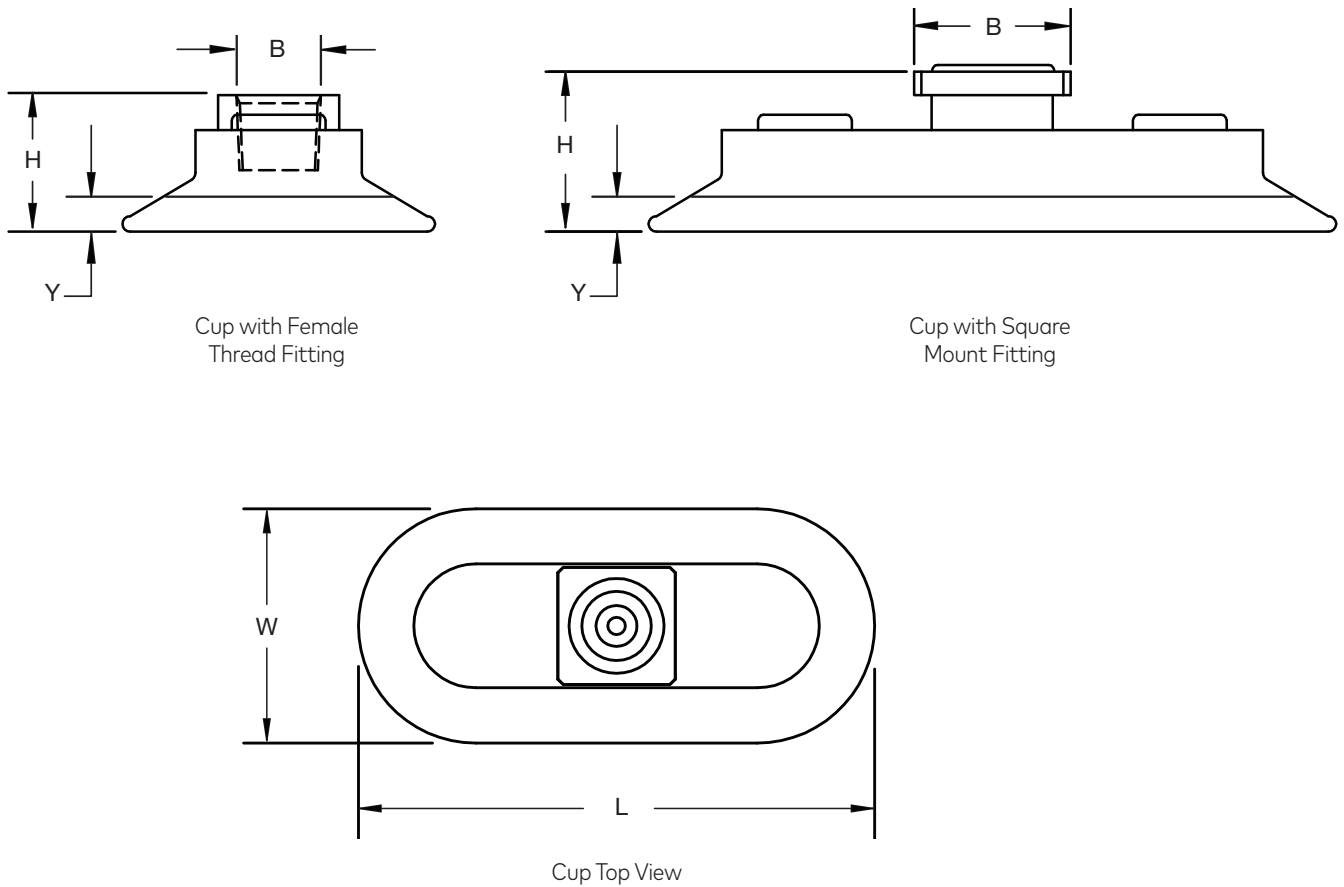
URETHANE SERIES



3

OVAL FLAT

Dimensions (mm)



Technical parameters

Norgren Part Number	Durometer Shore A	W Cup Width (mm)	L Cup Length (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
XOVCS-13P	35	38	97	4.5	25±1	3/8 BSPP Female
OVCS-13					25±1	Square Mount
OVCS-13T					31±1	3/8 NPT Female
XOVCS-16P	35	41	127	6.7	27±1	3/8 BSPP Female
OVCS-16					27±1	Square Mount
OVCS-16T					32±1	3/8 NPT Female
XOVCS-25P	35	64	140	7.0	33±1	3/8 BSPP Female
OVCS-25					33±1	Square Mount
OVCS-25T					35±1	3/8 NPT Female

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will change according to different surface conditions of workpiece.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

[Oval Bellow]

Ideal for uneven surfaces



*Industry's highest
lift and shear
force ratings*



*Rectangular cups for
wide material shapes*



Oval Bellow

Urethane



Pages 28

4 NITRILE SERIES



Nitrile Oval Bellow (NOB)

- » Large stroke and great flexibility, easy to fit close to workpiece with various shapes
- » Large inner support structure to protect the sheet metal from deformation and damage during handling process
- » Tread pattern efficiently increases the friction force between cups and workpiece in order to prevent the oily metal sheets from slipping during the handling process
- » Available in 60 durometer material
- » Ideal for sheet metal with different thickness and shapes
- » Oval 1.5 Bellows cups are ideal for workpieces with uneven rectangle shapes



Application

- » Ideal for sheet metal handling including oily stamping applications
- » Ideal for parts with uneven surface
- » Applicable for glass, plywood and other stamping materials

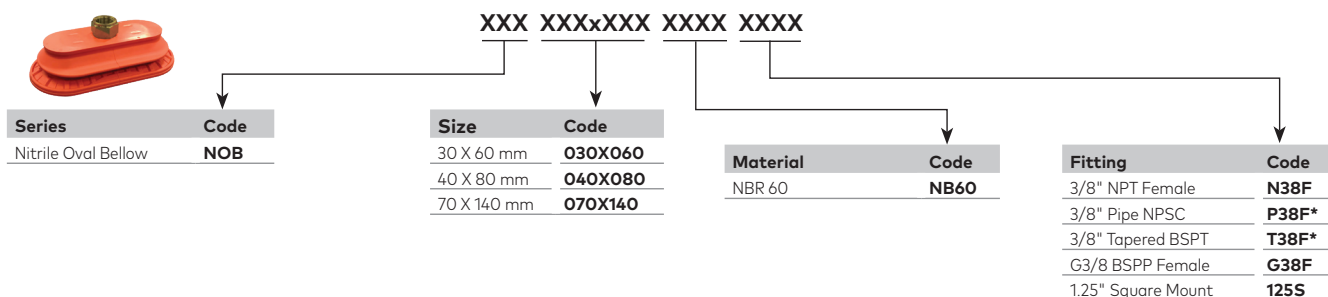


Material characteristics ratings

Material	Short time contact temperature (°C) >30s	Long time contact temperature (°C) >30s	Wear resistance	Oil resistance	Weather and ozone
Nitrile	-20 ~ +110	-10 ~ +80	●	●	○

●: Excellent ○: Meets Industry Requirements

Order information



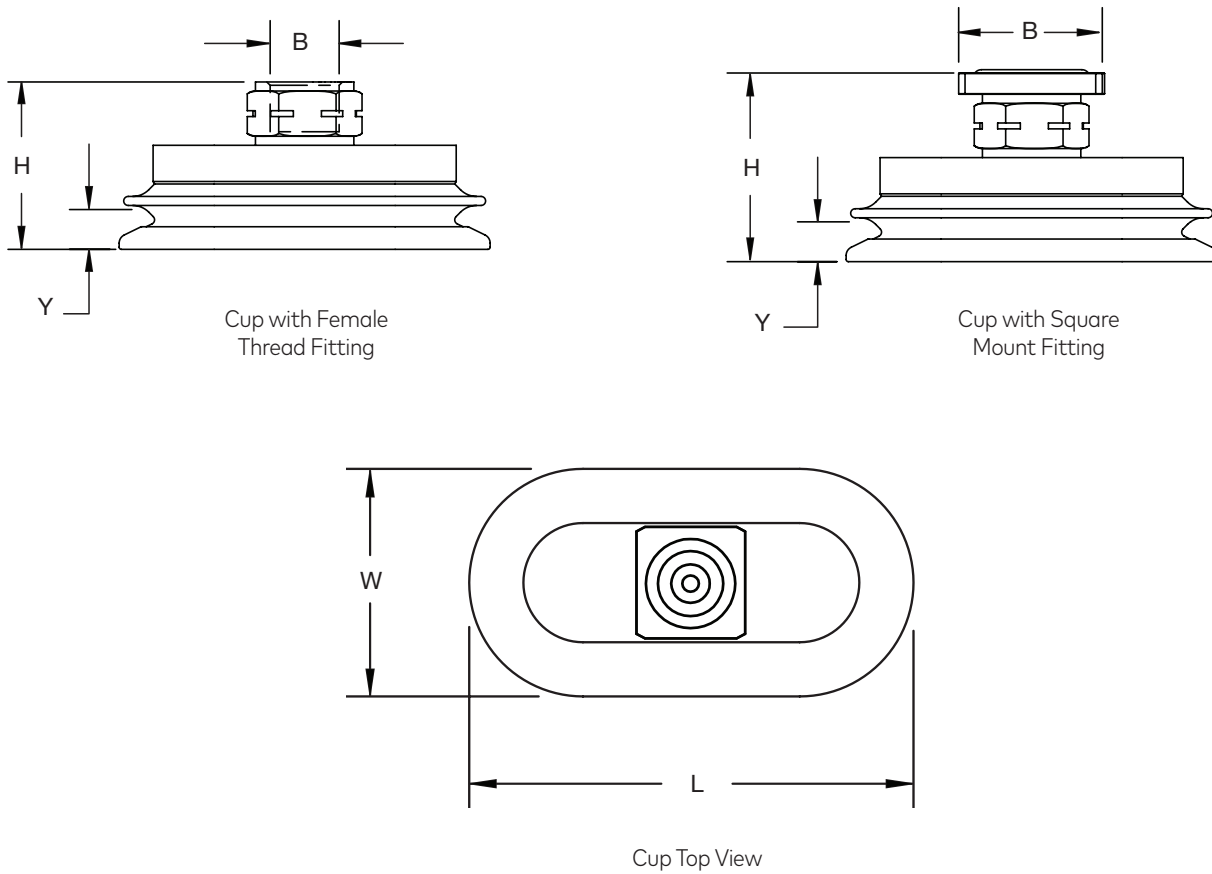
Technical parameters

Model	Vertical pull-out force (N)	Lateral pull-out force (N)	Lateral pull-out force N (oily surface)	Inner volume (cm³)	Minimum curve radius of work-place (mm)	Recommended hose diameter (mm)	Weight (g)
NOB30X60	53	60	50	8.7	25	6	31
NOB40X80	110	118	101	20	32	8	40
NOB70X140	275	295	267	100	70	8	140

Note: Vacuum level is -60kPa. The above pull-out force are specified without any safety factor. The value will changes according to different surface conditions of workpiece. For weights of cups with 1.25" Square Mount, add 10g.

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

Dimensions (mm)



Technical parameters

Norgren Part Number	Durometer Shore A	W Cup Width (mm)	L Cup Length (mm)	Y Stroke (mm)	H Overall Cup Height (mm)	B Fitting Type
NOB030X060NB60G38F	60	32	62	6.0	34±1	3/8 BSPP Female
NOB030X060NB60N38F					34±1	3/8 NPT Female
NOB030X060NB60125S					38.7±1	Square Mount
NOB040X080NB60G38F	60	42	82	8.8	37±1	3/8 BSPP Female
NOB040X080NB60N38F					37±1	3/8 NPT Female
NOB040X080NB60125S					41.7±1	Square Mount
NOB070X140NB60G38F	60	72	143	17	47.5±1.5	3/8 BSPP Female
NOB070X140NB60N38F					47.5±1.5	3/8 NPT Female
NOB070X140NB60125S					52.2±1.5	Square Mount

* Please contact factory at NASInsideSales@imi-precision.com or 1-800-272-4511 for lead times on non-standard parts

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Warning

These products are intended for use in industrial systems only. Do not use these products where pressures and temperatures can exceed those listed under Specifications.

Before using these products with fluids other than those specified, for nonindustrial applications, life-support systems, or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure modes.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products, or posted on the Norgren website under "Downloads." System designers should also provide for all OSHA requirements including Title 29 CFR 1910.147 Lockout/Tagout.

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Incorporating

