



Bosch Hydraulic Connections Ltd. specializes in all your hydraulic connection needs. We deal in world class fittings that meet or exceed American SAE specifications.

Bosch Hydraulic Connections Ltd. can support equipment from North America, Europe and most equipment from around the world. We handle standards such as SAE, JIC, NPT, ORFS, ORB, DIN, JIS, BSP and various Komatsu fittings.

At **Bosch** we are stocked and ready to supply all your company's hydraulic connecting requirements: hoses, fittings, adapters, ball valves, quick-release couplers, support clamps, pressure test fittings, and tubing. We carry both imperial and metric fittings and are known throughout the industry as the "Metric Experts"!

We take pride in the fact that we built our business on customer service and are committed to this continued dedication. Staff is on call 24 hours a day to ensure your emergency requirements are met.

Thank you for your interest in **Bosch Hydraulic Connections Ltd.**

We put a lot of information in our catalogue for your convenience. If we have not included an item for which you are looking, please call us. If we do not have it in stock, we can source it for you.

ORDERING

Call: (780) 413-0904
Fax: (780) 413-0905
Toll Free: 1-800-239-0416

Visit our Web Site:
www.boschhydraulic.com

Conditions of Sale

Freight and Handling:
F.O.B. Bosch Hydraulic Connections Ltd.
Edmonton Warehouse, Edmonton, Alberta,
Canada.

Pictures & Pricing:
Bosch Hydraulic Connections Ltd. cannot be held responsible for any typographical or pictorial errors. All prices are subject to change without notice. Pictures are for identification purposes only. Items pictured may not be exactly as shown.

Please see Terms and Conditions on next page.



Terms and Conditions

The provision of the goods and services identified on the front or first page of this invoice to you by Bosch Hydraulic Connections Ltd. ("Bosch") is subject to the following terms and conditions:

1. **Fees:** Upon the provision of goods and services to you by Bosch, you shall pay to Bosch the fees set forth on this invoice, plus goods and services taxes. Payment by you of the amount set forth in this invoice is due immediately upon your receipt of this invoice, and, if Bosch extends credit to you (as determined in its sole discretion), no later than thirty (30) days from the date of this invoice or such other period as set forth on the front page of this invoice. In the event that payment is received after such period, you shall pay interest from the date of this invoice on the all amounts due and owing to Bosch at a rate of two (2%) percent per month. Bosch reserves the right to demand payment in cash and to require a deposit towards the provision of goods and services. Time is of the essence with respect to your payment of such fees.
2. **Price Quotes:** All prices quotes set forth on this invoice for goods and services are: (a) subject to change without notice; (b) do not include goods and services taxes; and (c) with respect to goods, are (i) freight-on-board (FOB) Bosch's Edmonton warehouse; and (ii) subject to availability. Any special order goods and any rush deliveries shall be subject to additional freight charges. The provision of any services after the regular business hours of Bosch, currently 8:00 a.m. to 5 p.m. Mountain Standard Time, Monday through Friday excluding statutory holidays, shall be subject to additional fees.
3. **Special Orders:** Special order goods, once ordered, and customer specific hoses, once made, are non-returnable and non-refundable.
4. **Delivery of Goods and Services:** Delivery is subject to available stocks and subject to circumstances beyond the control of Bosch Hydraulic Connections Ltd. Such as labour troubles, civil disturbances, fire, natural disasters, acts of God, and other such happenings. Goods may be picked up at Bosch's Edmonton warehouse or be sent by a courier to your address, at your option, unless otherwise specified by you. If you do not specify a delivery method, Bosch will assume that you will pick-up such goods. Bosch shall not be responsible for any goods lost or damaged in transit. Delivery of services shall occur as may be mutually agreed upon. No claims for shortages made be made unless within ten (10) business days after receipt of goods.
5. **Warranty:** Subject to your proper installation, use and maintenance of the goods and services provided by Bosch as set forth in this invoice, such goods and services are warranted to be free from defects in workmanship for, with respect to original equipment manufacturer (OEM) goods, a period of ninety (90) days, and with respect to custom made parts and assemblies, a period of thirty (30) days, from the date of this invoice. In no event shall Bosch's liability, if any, for damages arising from a breach of such warranty or otherwise relating to or arising in any way from its provision of goods and services to you, under any and all causes of action including, without limitation, breach of contract and breach of warranty or tort, exceed the fees paid by you for such goods and services. In the event of a defect in goods within such warranty period, Bosch shall, at its option, replace or repair such goods, or refund to you the fees paid by you for such goods.

Notwithstanding the previous sentences of this paragraph, Bosch makes no warranties or representations with respect to repairs of any used hoses or tubes and you hereby acknowledge and agree that any such repairs performed by Bosch are on an "as is" basis and any use of such repaired hoses shall be at your sole risk.

6. **Limitation of Liability:** Except as otherwise set forth in paragraph 5 above, Bosch makes no representations, guarantees or warranties, including any statutory conditions or warranties and any implied warranties of merchantability and fitness for a particular purpose, with respect to the goods and services provided to you as set forth in on the front page of this invoice. Under no circumstances shall Bosch be liable to you for any losses, damages or expenses, including any direct, indirect, consequential or punitive damages, which you may suffer, sustain, pay or incur by reason of your use of such goods and services, even if Bosch has been advised of the possibility or likelihood of such losses, damages or expenses.
7. **Shortages:** You shall not be entitled to claim any shortages with respect to the goods provided to you pursuant to this invoice unless you have provided written notice to Bosch of such claim within ten (10) of receipt of such goods.
8. **Return of New Goods:** Subject to the provisions of paragraph 3, you shall have the right to return any new goods subject to the following conditions: (a) you must request a return of such goods within thirty (30) days of the date of this invoice; (b) you must obtain a return goods authorization number from Bosch; (c) any returns which are not required due to an error or omission of Bosch shall be subject to a restocking fee of twenty (20%) percent if returned within 30 days, from the date of purchase; (d) you must return goods to Bosch by prepaid freight at your own cost and expense; and (e) only goods in original and new condition shall be returned. No returns will be accepted after 30 days. Returns on account will be issued a credit on account only, no cash refunds will be issued. No credit will be give on discontinued products as all sales are final on discontinued products.
9. **Notices:** Any requests or notices required shall be delivered personally or sent by pre-paid registered mail or by facsimile transmission to the receiving party at the address or facsimile number noted on the front page of this invoice. A request or notice sent by pre-paid registered mail shall be deemed to be received by the recipient on the seventh (7th) day following mailing thereof (excluding Saturdays, Sundays, statutory holidays and any period of postal disruption). A request or notice personally delivered or sent by facsimile transmission shall be deemed received when actually delivered or sent to the address or facsimile number noted on the front of this invoice, unless it is delivered or sent after normal business hours wherein such request or notice shall be deemed to have been received the following business day.
10. **Force Majeure:** Notwithstanding any other provision set forth in this document, Bosch shall not be held responsible for any damages caused by delay or failure to perform its obligations under this invoice when the delay or failure is due to fires, strikes, floods, acts of God, lawful acts of public authorities or delays or defaults caused by common carriers, which cannot be reasonably foreseen or provided against.
11. **Enurement:** The terms and conditions set forth in this document shall enure to the benefit of and be binding upon the respective successors and permitted assigns of you and Bosch.
12. **Survival:** The provisions of this paragraph, and of paragraphs 5 and 6 of this invoice shall survive the completion of the transaction contemplated herein.
13. **Governing Law:** This invoice shall be governed and interpreted in accordance with the laws in force in the Province of Alberta, Canada. The parties hereby submit to the exclusive jurisdiction of the Courts of Alberta.
14. **Currency:** Unless otherwise set forth on the front page of this invoice, all references to dollar amounts in this document shall be in the lawful currency of Canada.

LEGEND

FITTINGS

- **F-BSPP** = FEMALE BRITISH STANDARD PIPE PARALLEL
- **F-BSPP C.S.** = FEMALE BRITISH STANDARD PIPE PARALLEL
CONE SEAL
- **F-BSPP FF** = FEMALE BRITISH STANDARD PIPE FLAT FACE
- **F-DIN** = FEMALE METRIC
- **F-JIC** = FEMALE JIC (JOINT INDUSTRIAL COUNCIL)
- **F-JIS** = FEMALE JIS (JAPANESE INDUSTRIAL STANDARD)
- **F-KOM** = FEMALE KOMATSU
- **F-NPSM** = FEMALE NATIONAL PIPE SEAL MECHANICAL
- **F-NPTF** = FEMALE NATIONAL PIPE THREAD FUELS
- **F-ORB** = FEMALE O-RING BOSS
- **F-ORFS** = FEMALE O-RING FACE SEAL

- **M-BSPP** = MALE BRITISH STANDARD PIPE PARALLEL
- **M-BSPP C.S.** = MALE BRITISH STANDARD PIPE PARALLEL
CONE SEAL
- **M-BSPT** = MALE BRITISH STANDARD PIPE TAPER
- **M-DIN** = MALE METRIC
- **M-JIC** = MALE JIC (JOINT INDUSTRIAL COUNCIL)
- **M-JIS** = MALE JIS (JAPANESE INDUSTRIAL STANDARD)
- **M-KOB** = MALE KOBELCO
- **M-KOM** = MALE KOMATSU
- **M-NPTF** = MALE NATIONAL PIPE THREAD FUELS
- **M-ORB** = MALE O-RING BOSS
- **M-ORFS** = MALE O-RING FACE SEAL

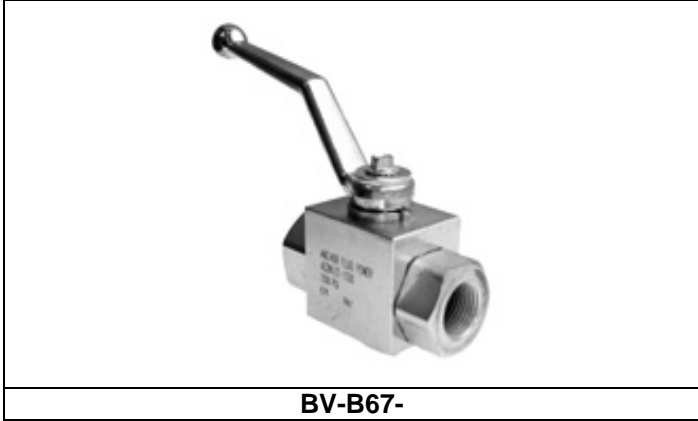
LEGEND

GENERAL

- **ADJ** = ADJUSTABLE
- **B.H.** = BULKHEAD
- **C61** = CODE 61
- **C62** = CODE 62
- **C.S.** = CONE SEAL
- **F.F.** = FLAT FACE
- **H/P** = HIGH PRESURE
- **S.S.T.** = STAINLESS STEEL TEFLON
- **STR.** = STRAIGHT
- **UH/P** = ULTRA HIGH PRESURE

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BSPB



Description

- Port BSPB Female 2 Way Ball Valve
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV-B67-02	1/8"	BSPB Female	7250
BV-B67-04	1/4"	BSPB Female	7250
BV-B67-06	3/8"	BSPB Female	7250
BV-B67-08	1/2"	BSPB Female	7250
BV-B67-12	3/4"	BSPB Female	5800
BV-B67-16	1"	BSPB Female	5075
BV-B67-20	1 1/4"	BSPB Female	4567



Description

- Port BSPB Female 3 Way Ball Valve
- Center port is pressure inlet
- L-Drill configuration
- Directs flow from pressure inlet to either left or right port
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV3L-B69-12	3/4"	BSPB Female	5075
BV3L-B69-16	1"	BSPB Female	4567

DIN



BV-M10-##L

Description

- DIN Light 2 Way Ball Valve
- Carbon steel
- Buna O-rings

Part #	Thread Size	Tube Size (mm)	Thread Type	Maximum Operating Pressure (PSI)
BV-M10-10L	16 x 1.5	10	DIN Male Light	7250
BV-M10-12L	18 x 1.5	12	DIN Male Light	7250
BV-M10-15L	22 x 1.5	15	DIN Male Light	7250
BV-M10-18L	26 x 1.5	18	DIN Male Light	7250



BV-M10-##S

Description

- DIN Heavy 2 Way Ball Valve
- Carbon steel
- Buna O-rings

Part #	Thread Size	Tube Size (mm)	Thread Type	Maximum Operating Pressure (PSI)
BV-M10-12S	20 x 1.5	10	DIN Male Heavy	7250
BV-M10-14S	22 x 1.5	12	DIN Male Heavy	7250
BV-M10-16S	24 x 1.5	15	DIN Male Heavy	7250
BV-M10-20S	30 x 2.0	18	DIN Male Heavy	7250
BV-M10-30S	42 x 2.0	30	DIN Male Heavy	7250

DIN



Description

- DIN Heavy 2 Way Ball Valve
- Extended Hex
- Carbon steel
- Buna O-rings

BV-M10-##SX

Part #	Thread Size	Tube Size (mm)	Thread Type	Maximum Operating Pressure (PSI)
BV-M10-14SX	22 x 1.5	14	DIN Male Heavy	7250
BV-M10-20SX	30 x 2.0	20	DIN Male Heavy	7250



Description

- DIN Light 3 Way Ball Valve
- Center port is pressure inlet
- L-Drill configuration
- Directs flow from pressure inlet to either left or right port
- Carbon steel
- Buna O-rings

BV3L-M18-##L

Part #	Thread Size	Tube Size (mm)	Thread Type	Maximum Operating Pressure (PSI)
BV3L-M18-12L	18 x 1.5	12	DIN Male Light	5800
BV3L-M18-18L	26 x 1.5	18	DIN Male Light	5075
BV3L-M18-22L	30 x 2.0	22	DIN Male Light	5075

DIN



Description

- DIN Heavy 3 Way Ball Valve
- Center port is pressure inlet
- L-Drill configuration
- Directs flow from pressure inlet to either left or right port
- Carbon steel
- Buna O-rings

Part #	Thread Size	Tube Size (mm)	Thread Type	Maximum Operating Pressure (PSI)
BV3L-M18-16S	24 x 1.5	16	DIN Male Heavy	5075

NPTF



Description

- **Brass Ball Valve**
- Good for water, oil, and gas
- Working Steam Pressure is 150 PSI for all sizes

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BVB-P67-02	1/8"	NPTF Female	600
BVB-P67-04	1/4"	NPTF Female	600
BVB-P67-06	3/8"	NPTF Female	600
BVB-P67-08	1/2"	NPTF Female	600
BVB-P67-12	3/4"	NPTF Female	600
BVB-P67-16	1"	NPTF Female	600
BVB-P67-20	1 1/4"	NPTF Female	600
BVB-P67-24	1 1/2"	NPTF Female	600
BVB-P67-32	2"	NPTF Female	600
BVB-P67-40	2 1/2"	NPTF Female	400
BVB-P67-48	3"	NPTF Female	400

NPTF



Description

- NPTF Female 2 Way Ball Valve
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV-P67-02	1/8"	NPTF Female	7250
BV-P67-04	1/4"	NPTF Female	7250
BV-P67-06	3/8"	NPTF Female	7250
BV-P67-08	1/2"	NPTF Female	7250
BV-P67-12	3/4"	NPTF Female	5800
BV-P67-16	1"	NPTF Female	5075
BV-P67-20	1 1/4"	NPTF Female	5075



Description

- NPTF Female 2 Way Ball Valve
- Forged Body
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BVF-P67-20	1 1/4"	NPTF Female	5075

NPTF



Description

- NPTF Female 3 Way Ball Valve
- Center port is pressure inlet
- L-Drill configuration
- Directs flow from pressure inlet to either left or right port
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV3L-P67-02	1/8"	NPTF Female	5800
BV3L-P67-04	1/4"	NPTF Female	5800
BV3L-P67-06	3/8"	NPTF Female	5800
BV3L-P67-08	1/2"	NPTF Female	5075
BV3L-P67-12	3/4"	NPTF Female	5075
BV3L-P67-16	1"	NPTF Female	5075
BV3L-P67-20	1 1/4"	NPTF Female	5075

SAE ORB



Description

- SAE O-Ring Boss Female 2 Way Ball Valve
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV-R67-04	-04	ORB Female	7250
BV-R67-06	-06	ORB Female	7250
BV-R67-08	-08	ORB Female	7250
BV-R67-12	-12	ORB Female	5800
BV-R67-16	-16	ORB Female	5075
BV-R67-20	-20	ORB Female	5075
BV-R67-24	-24	ORB Female	5075



Description

- ORB Female 2 Way Ball Valve
- Forged Body
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BVF-R67-20	-20	NPTF Female	5075

SAE ORB



Description

- SAE O-Ring Boss Female 3 Way Ball Valve
- Center port is pressure inlet
- L-Drill configuration
- Directs flow from pressure inlet to either left or right port
- Carbon steel
- Buna O-rings

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
BV3L-R69-04	-04	ORB Female	5800
BV3L-R69-06	-06	ORB Female	5800
BV3L-R69-08	-08	ORB Female	5075
BV3L-R69-12	-12	ORB Female	5075
BV3L-R69-16	-16	ORB Female	5075
BV3L-R69-20	-20	ORB Female	5075

Brass Needle Valve



Description

> N/A

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
B-NV-P67-02	1/8"	NPTF Female	150
B-NV-P67-04	1/4"	NPTF Female	150

Needle Valve



Description

- Graduated knob and spindle for accurate flow control
- Temperature range: -20°C - 80°C

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
NV-P67-04	1/4"	NPTF Female	5700
NV-P67-06	3/8"	NPTF Female	5700
NV-P67-08	1/2"	NPTF Female	5700
NV-P67-12	3/4"	NPTF Female	5700
NV-P67-16	1"	NPTF Female	5700
NV-P67-20	1 1/4"	NPTF Female	5075

Needle Check Valve



Description

- 7 PSI standard spring setting
- Graduated knob and spindle for accurate flow control
- Temperature range: -20°C - 80°C

NVC-P67-

Part #	Dash Size	Thread Type	Maximum Operating Pressure (PSI)
NVC-P67-04	1/4"	NPTF Female	5700
NVC-P67-06	3/8"	NPTF Female	5700
NVC-P67-08	1/2"	NPTF Female	5700
NVC-P67-16	1"	NPTF Female	5700



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