diamond schmitt

SUBMITTAL REVIEW FORM

384 Adelaide Street West, Suite 100
Toronto, ON M5V 1R7
t: 416 862 8800

1050 West Pender Street, Suite 2010
Vancouver, BC V6E 3S7
t: 604 674 0866

1776 Broadway, Suite 2200
New York, NY 10019
t: 212 710 4329

www.dsai.ca
info@dsai.ca

To:	Rafat General Contractor Inc. 8850 George Bolton Parkway Caledon, ON L7E 2Y4	Submittal No:	096
		Project No:	201014
		File No:	4-6-1-23
Attention:	Pino Antelope, Bashar Mikha	Date:	May-23-24

Project: Chris Gibson Recreation Centre

The Architect's review is for the sole purpose of ascertaining conformance with the general design concept and for general arrangement. This review shall not mean approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for all dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes, quantities or to techniques of construction and installation and for co-ordination with related work.

Contractor Package #	Spec Section	Description	Reviewed by	Status
096	23 05 48	Mechanical Isolations - HVAC	INT, DSA	**RN**

Status Legend: **R** – Reviewed **RN** – Reviewed As Noted **RR** – Revise and Resubmit **N** – Not Reviewed

Comments: Please see consultant comments.

Per: Patrick Johnson

RAFAT

8850 GEORGE BOLTON PARKWAY, CALEDON, ONTARIO L7E 2Y4

Shop Drawings Transmittal No:	96

Project Name:	Renovation of Chris Gibson Recreation Centre Drive	**Project No.**	T2023-125
		DATE:	10-May-2024
		Submittal Required Return Date:	1 June 2024
Submittal No:	96		

Title:	Mechanical Isolations - HVAC 23-05-48

To:	Patrick Johnson Contract Administrator Halima Namugga Admin Project Coordinator 384 Adelaide Street West, Suite 100 Toronto, Ontario, Canada M5V 1R7 PJohnson@dsai.ca

Checked by:	**Ashish Singla (Rafat General Contractor Inc/Corebuild)**	**To Be Reviewed By the Following Consutlants**	1. RJC 2.Integral

Submitted for:	REVIEW
Consultants Response	

RAFAT | COR | IHSA.ca Work Safe for Life

SUBMITTAL REVIEW

For general compliance with the design concept and contract documents. Subcontractor is solely responsible for jobsite correlation and correctness of all ratings, sizings, type, style, dimensions, finish, quantities and satisfactory fitting to other work and equipment. This review does not change the intent of the contract document.

- ■ Reviewed
- ☐ Make Corrections
- ☐ Resubmit
- ☐ Rejected

Per: Ashish Singla

Date: 10 May 2024

SUBMITTAL REVIEW

INTROBA
380 Wellington Street West
Toronto, ON
M5V 1E3

Introba

- ☐ REVIEWED
- ☑ REVIEWED AS NOTED
- ☐ REJECTED - REVISE AND RESUBMIT
- ☐ NOT REVIEWED

CHECKED BY: ILITTLEY

DISCIPLINE: Mechanical

DATE: 5/22/2024

REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS AND SUITABILITY FOR SITE CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW OF THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS.

IRB Comments:

1. Coordinate final location with equipment manufacturer's requirements
2. Contractor responsible for coordinating vibration isolation requirements for any alternative equipment having different weight or vibration characteristics

CONSULT MECHANICAL 200 Tesma Way, Concord, ON, L4K 5C2 (905) 738-1400

Submittal Package 23-214 - 035

May 8, 2024

PROJECT NAME	PROJECT NUMBER	PROJECT ADDRESS	DUE DATE
CHRIS GIBSON REC CENTRE	23-214	125 McLaughlin Rd N, Brampton, ON, L6X 1N9	May 22, 2024

To

NAME	EMAIL
Ashish Singla	asingla@corebuildconstruction.com

COMPANY	ADDRESS
RAFAT GENERAL CONTRACTOR INC.	8850 GEORGE BOLTON PKWY, BOLTON, ON, L7E 2Y4

From

NAME	EMAIL
JOSHUA STEPHENSON	josh.s@consultmechanical.com

COMPANY	ADDRESS
Con-Sult Mechanical Inc	54 Audia Ct, Unit #2, Vaughan, ON, L4K 3N5

Subject

Mechanical Isolators

Package Items

Spec	Subsection	Description
Mechanical	HVAC	Mechanical Isolation

200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Item Information

May 8, 2024

Spec Section

Mechanical

Sub Section

HVAC

Description

Mechanical Isolation

Submittal # 72192 **APPROVAL REQUIRED**

Project	22006063-MECH-4- Chris Gibson Recreation Centre
Leader	Nevin Wong
Job Site	125 McLaughlin Rd N, Brampton, Ontario
Submission Date	2024-05-07
Sold To	CONSULT MECH
Submitted By	Joseph Chia

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Con-Sult Mechanical Inc.*	Nevin Wong
Designer	Integral Group	Graham Coote

Deliverables

Track #	243778	243777	
Tag	PUMP-PH-01/02/03, PUMP-PH-04/10/16/17/18-/20/21/22, PUMP-PH-05/06/08/09/1-1/12/14/15, PUMP-PH-07/13/19, CHILLER-WSHP-01, CHILLER-WSHP-02A/B	AIR HANDLER UNIT-AHU-A-2/3/4/8,DH-U-1/2/3, CHILLER-WSHP-01,02A/B-, PUMPS-19 UNITS, CONDENSING UNIT-CND-1/2, STORAGE TANK-ST-01/02,BT-01/0-2, UNIT HEATER-UH-1/2 (14 UNITS), TANKS-ET-01/02/03, BT-01/02, ST-01/02, BOILER-EB-01, PIPING ISOLATION-FIRST 3 POINTS CONNECTED TO PUMPS AND CHILLERS	
Description	Flex-Connector at Mechanical Equipment	Mechanical Isolation	
Manufacturer	FLEX-PRESSION LTD.	Kinetics Noise Control	
Production Lead Time	6-8 weeks	6-8 weeks	
Revision #	1	1	

Notes:

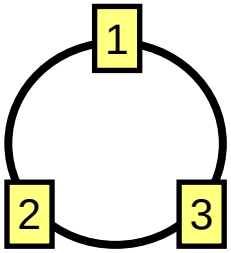
- A steel top plate is required (by contractor) whenever equipment support/leg does not cover at least 90% of the surface area of neoprene pad type isolators.
- Contractor is responsible to ensure that hanger rods passing through a spring hanger are properly aligned to avoid short-circuiting the vibration isolators
- Maximum hanger rod diameter is 5/8" for the SRH-1/2 type isolators, 5/8" for the SH-1 type isolators and 3/8" for the SHAA type isolators
- Contractor to confirm that proposed isolators match the site condition and equipment layout.

- Spring hangers will be provided for first three points of support for piping connected to pumps and chillers only.
- All flexible connectors and pump stands have standard ANSI 125/150# flanges. Contractor to notify HTS if flange pattern needs to be rated otherwise.
- Consultant to review and confirm that temperature and pressure ratings for all proposed flexible connectors meet respective system requirements.

Attention:

1) HTS will provide equipment in accordance with the attached shop drawings.
2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps



Tag	ST-1/2(2 Units)								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	5,920.15	RSP 8 IN x 12 IN	0.12						
2	5,920.15	RSP 8 IN x 12 IN	0.12						
3	5,920.15	RSP 8 IN x 12 IN	0.12						

ORIENTATION LBL							
ISO/REST QTY	3 PER TAG, 6 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	17,760.45 lbs						
MAN/MODEL	AO Smith/TV-175A						
REPRESENTATIVE	HTS	Designer		Ben Phan			

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

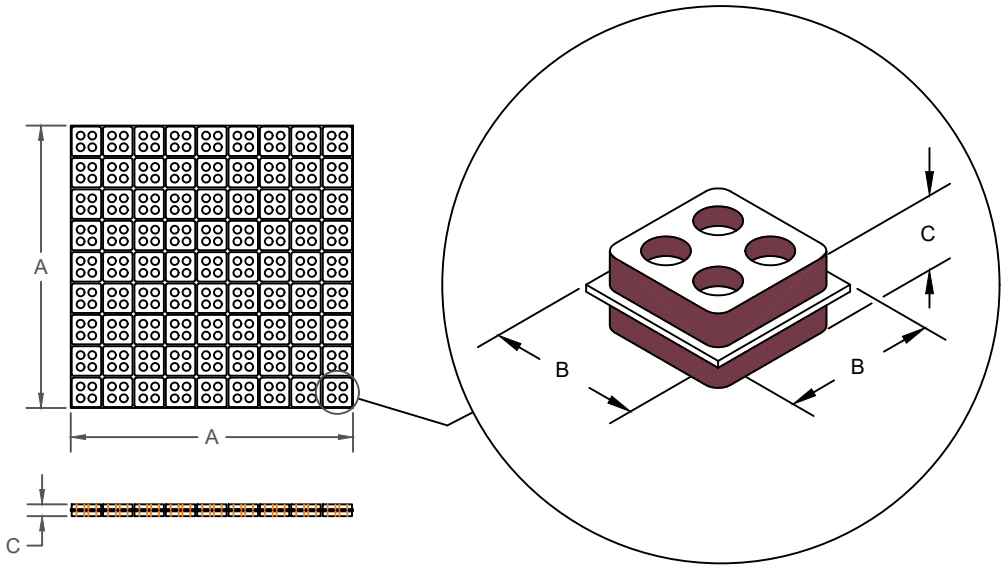
EQUIPMENT WEIGHT INCLUDES WATER WEIGHT

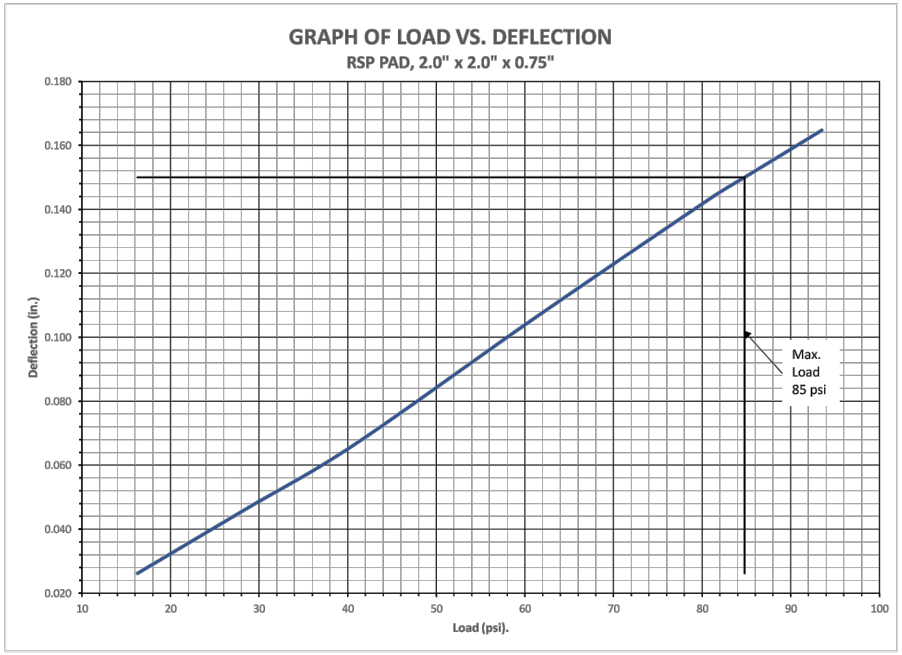
KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





SPECIFICATIONS:

- FULL SHEET IS 18 X 18 X 0.75.
- CONTAINS (81) 2 X 2 PADS.
- MAX LOAD RATING FOR EACH 2 X 2 PAD IS 340 LBS.
- RAW MATERIAL 55 DURO EPDM.

KINETICS Noise Control®

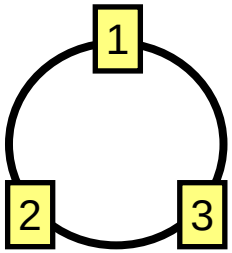
VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION

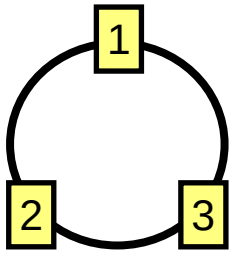
KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

Model: RSP PAD

By: JMJ
Date: 05/16/03
Revised: 1/30/24 / SMB

Drawing No: S-02.04-11





Tag	ET-1/2 (2 Units)			ET-3					
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.		Isolator	
1	956.33	RSP 4 IN x 4 IN	0.11	482.86	RSP 2 IN x 4 IN	0.12			
2	956.33	RSP 4 IN x 4 IN	0.11	482.86	RSP 2 IN x 4 IN	0.12			
3	956.33	RSP 4 IN x 4 IN	0.11	482.86	RSP 2 IN x 4 IN	0.12			

ORIENTATION LBL					
ISO/REST QTY	3 PER TAG, 6 TOTAL	3 PER TAG, 3 TOTAL			
CG LEN/WDTH	N/A	N/A			
UNIT WEIGHT	2,868.99 lbs	1,448.58 lbs			
MAN/MODEL	Bell & Gossett/B-1000	Bell & Gossett/PTA-450			
REPRESENTATIVE	HTS	Designer	Ben Phan		

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

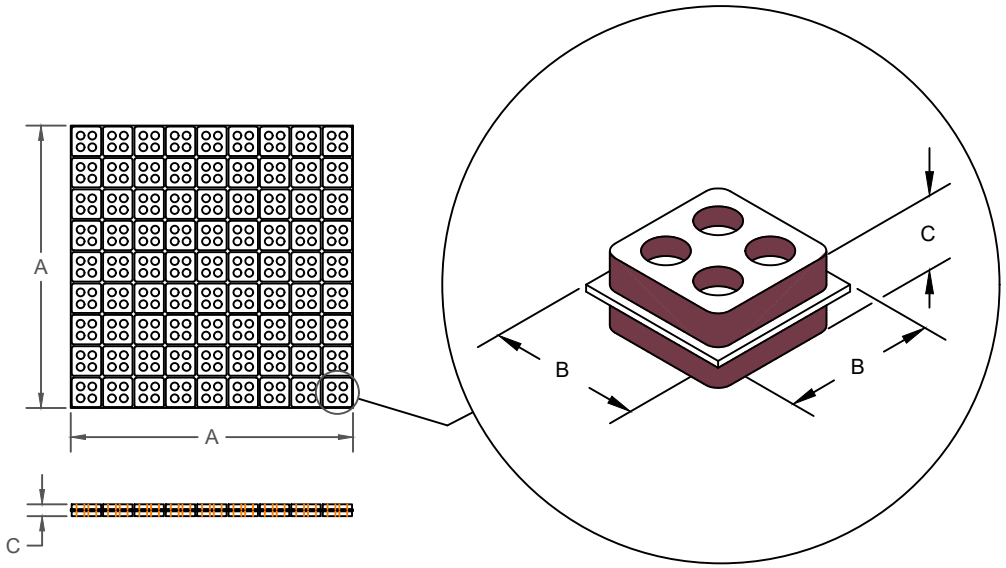
EQUIPMENT WEIGHT INCLUDES WATER WEIGHT

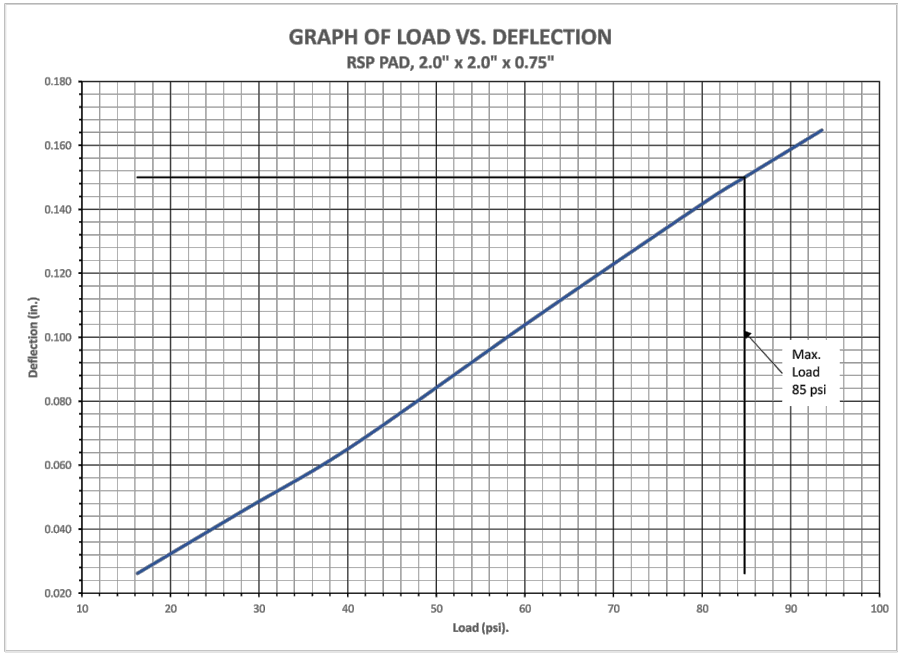
KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





SPECIFICATIONS:

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- RAW MATERIAL 55 DURO EPDM.

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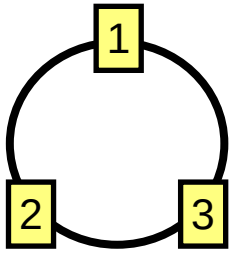


Tag	BT-1/2 (2 Units)								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	2,279.09	RSP 4 IN x 10 IN	0.11						
2	2,279.09	RSP 4 IN x 10 IN	0.11						
3	2,279.09	RSP 4 IN x 10 IN	0.11						

ORIENTATION LBL							
ISO/REST QTY	3 PER TAG, 6 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	6,837.27 lbs						
MAN/MODEL	Lochinvar/TVC658						
REPRESENTATIVE	HTS	Designer	Ben Phan				

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

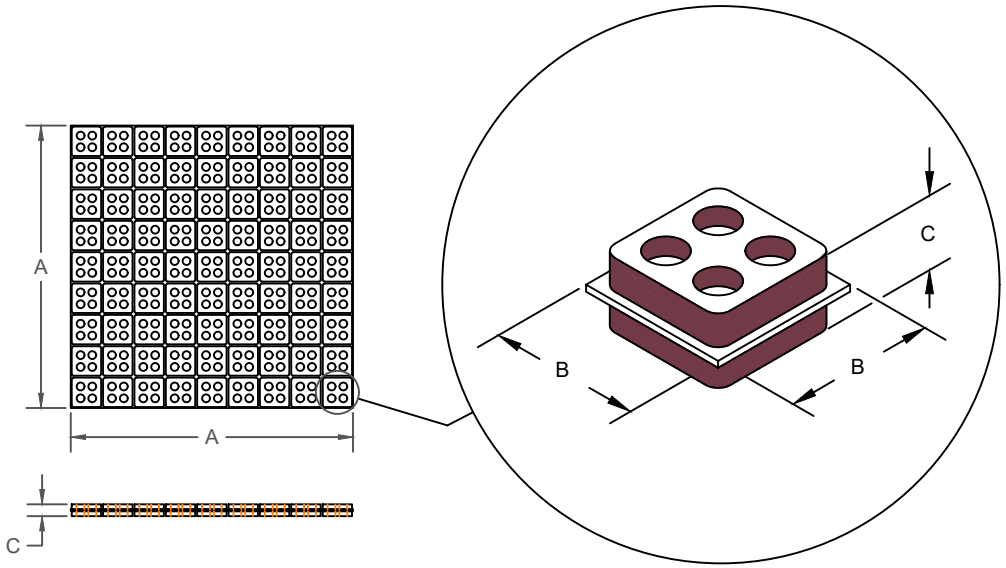
EQUIPMENT WEIGHT INCLUDES WATER WEIGHT

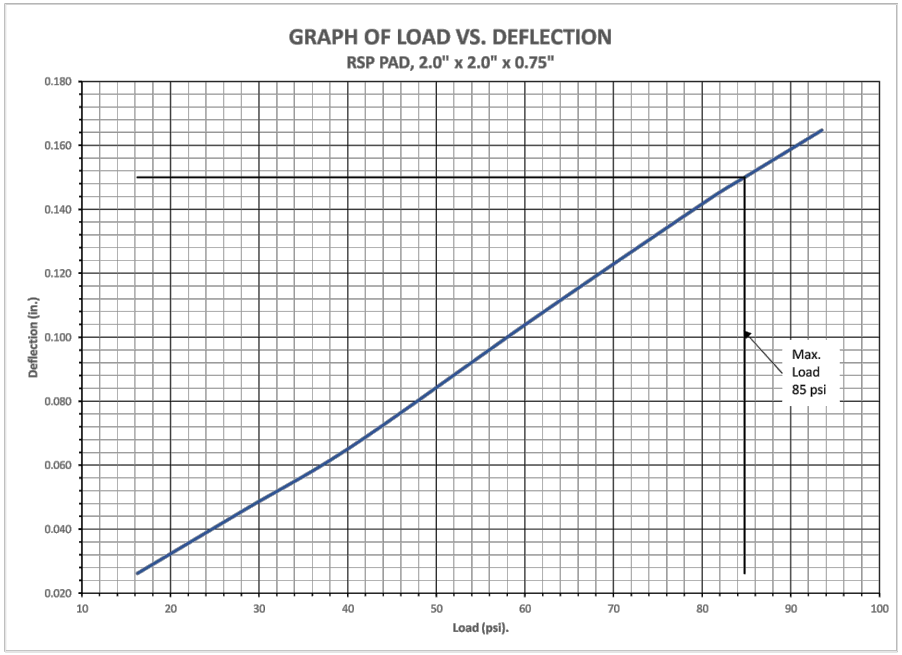
KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





SPECIFICATIONS:

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- RAW MATERIAL 55 DURO EPDM.

KINETICS Noise Control®

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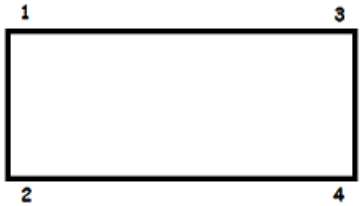
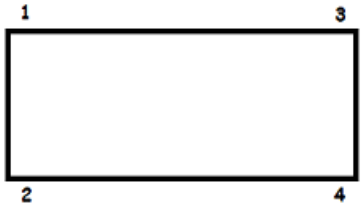
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

Model: RSP PAD

By: JMJ
Date: 05/16/03
Revised: 1/30/24 / SMB

Drawing No: S-02.04-11





Tag	CND-1			CND-2					
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.		Isolator	
1	43.00	RSP 2 IN x 2 IN	0.02	19.50	RSP 2 IN x 2 IN	0.01			
2	43.00	RSP 2 IN x 2 IN	0.02	19.50	RSP 2 IN x 2 IN	0.01			
3	43.00	RSP 2 IN x 2 IN	0.02	19.50	RSP 2 IN x 2 IN	0.01			
4	43.00	RSP 2 IN x 2 IN	0.02	19.50	RSP 2 IN x 2 IN	0.01			

ORIENTATION LBL					
ISO/REST QTY	4 PER TAG, 4 TOTAL	4 PER TAG, 4 TOTAL			
CG LEN/WDTH	N/A	N/A			
UNIT WEIGHT	172.00 lbs	78.00 lbs			
MAN/MODEL	Daikin/RXTQ36TBVJUA	Daikin/RXL12WMVJU9			
REPRESENTATIVE	HTS	Designer	Ben Phan		

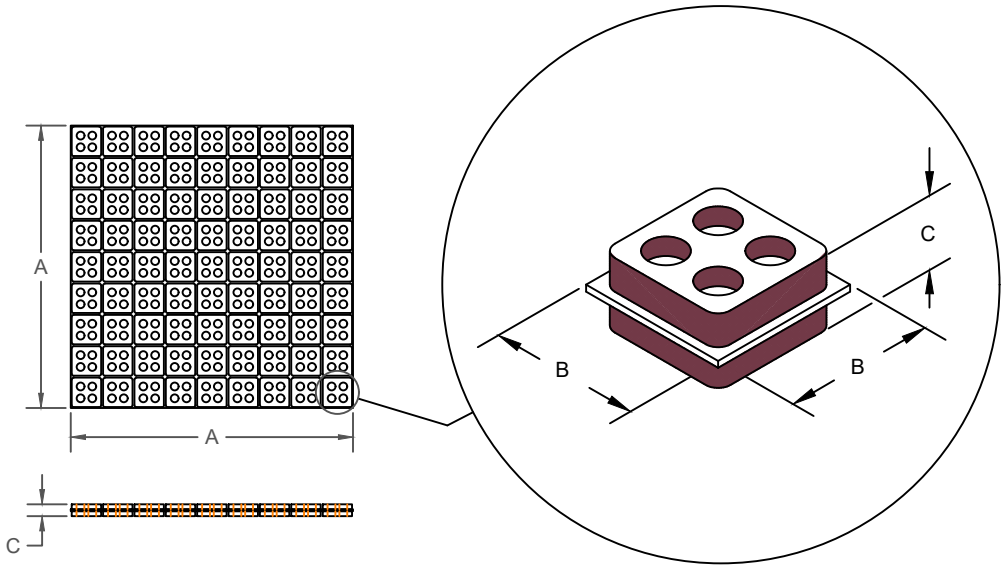
REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

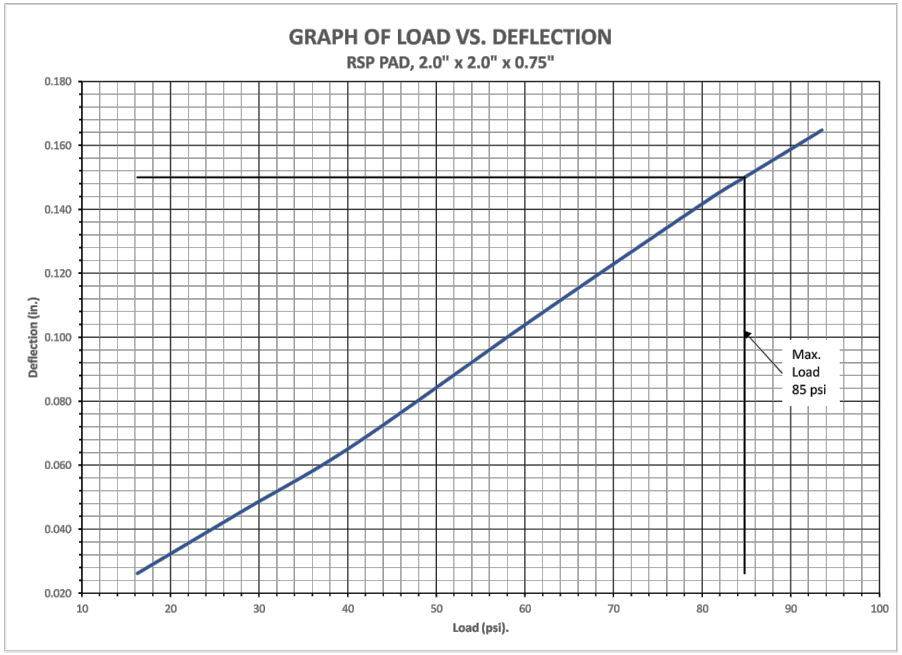
	TITLE	DATE	KNC	Project Name	Engineer
KINETICS Noise Control	TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





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Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

Model: RSP PAD

By: JMJ
Date: 05/16/03
Revised: 1/30/24 / SMB

Drawing No: S-02.04-11

Tag	UH-1 (2 Units)								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	86.09	SH-1-125	0.85						
2	86.09	SH-1-125	0.85						

ORIENTATION LBL							
ISO/REST QTY	2 PER TAG, 4 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	172.18 lbs						
MAN/MODEL	Sigma/245H						
REPRESENTATIVE	HTS	Designer	Ben Phan				

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

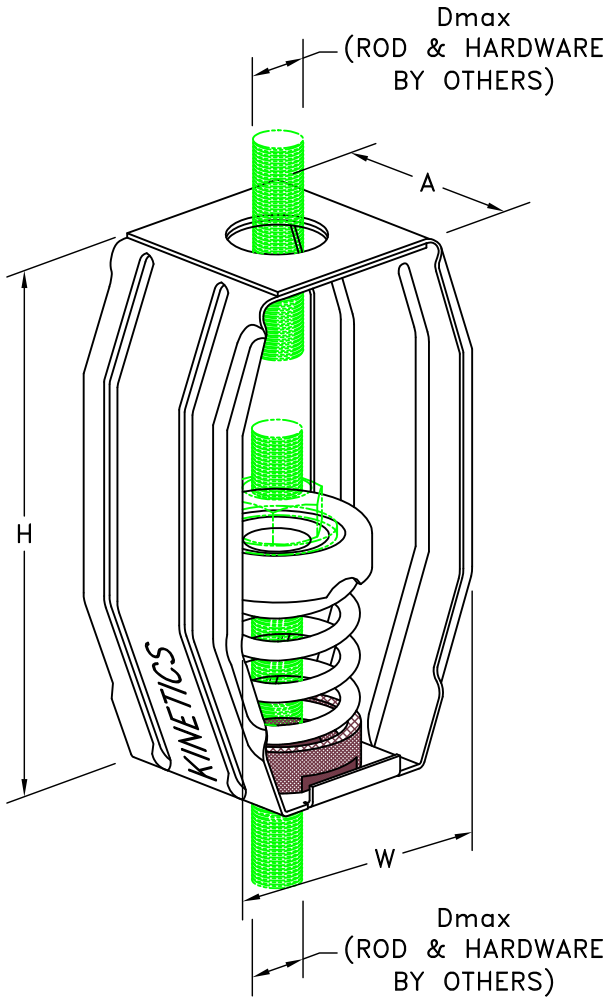
KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

SH 1" DEFLECTION ISOLATION HANGERS

IP UNITS (INCHES AND POUNDS)

TYPE	H	W	A	DMAX
1-35/370	5.25	3.69	2.25	0.63
1-500/600	5.25	3.69	2.25	0.63
1-700/805	5.25	3.69	2.25	0.63

STANDARD RATINGS				SPRING COIL			
				COLOR		FREE	
TYPE	SIZE	LOAD	DEFL.	OUTER	INNER	HT.	O.D.
SH	1-35	35	1.52	BLUE		3.19	1.75
SH	1-70	70	1.36	GREEN		3.19	1.75
SH	1-125	125	1.23	GRAY		3.19	1.75
SH	1-245	245	1.19	BROWN		3.19	1.75
SH	1-370	370	0.96	ORANGE		3.19	1.75
SH	1-500	500	1.00	BEIGE		3.19	1.75
SH	1-600	600	1.00	CHROME		3.19	1.75
SH	1-700	700	1.00	BEIGE	WHITE	3.19	1.75
SH	1-805	805	1.01	CHROME	WHITE	3.19	1.75



SPECIFICATIONS:

- SPRING ELEMENTS AND BRACKETS ARE POWDER COATED.
- LOAD PLATES ARE BRIGHT ZINC PLATED.
- ISOLATION HANGERS HAVE A TYPICAL OVERLOAD OF 50%.
- ISOLATION HANGERS HAVE A MINIMUM Kx/Ky RATIO OF 1.0.
- SPRING ELEMENTS ARE SAFE AT SOLID LOADING.
- HANGER BRACKETS WILL CARRY (5) TIMES OVERLOAD WITHOUT FAILURE.
- HANGER BRACKETS WILL ALLOW 30° ROD MISALIGNMENT WITHOUT SHORT CIRCUITING, EXCEPT AS NOTED (*).
- "NO SHORT" STEP CAP.

KINETICS Noise Control

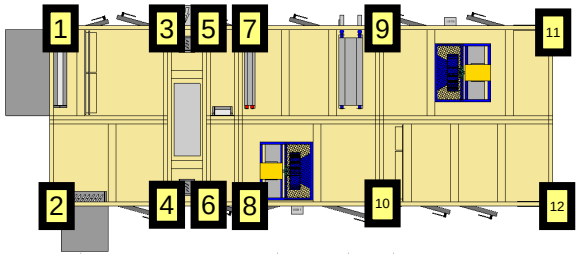
Member VISCMA
Vibration Isolation and Seismic Control Manufacturers Association

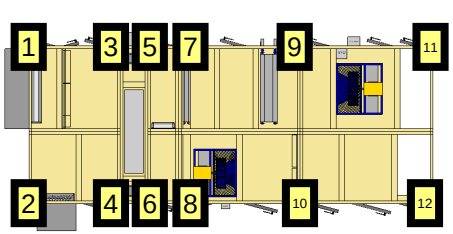
KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

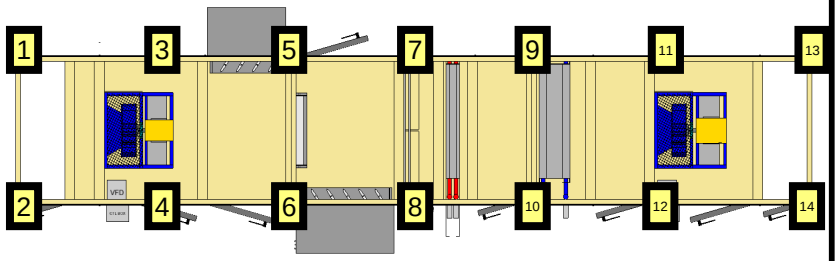
Model: SH-1-35/805

By: B. LIVELY
Date: 12/07/05
Revised: 06/10/10 / BB

Drawing No: S-03.36-11







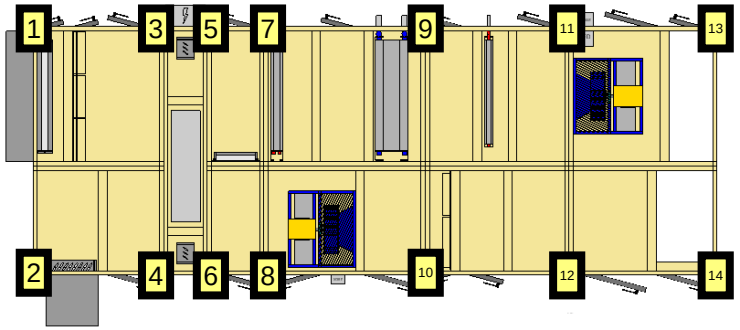
Tag	AHU-A-2			AHU-A-3			AHU-A-4		
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.
1	347.75	RSP 2 IN x 4 IN	0.08	501.00	RSP 2 IN x 4 IN	0.12	229.17	RSP 2 IN x 2 IN	0.11
2	347.75	RSP 2 IN x 4 IN	0.08	501.00	RSP 2 IN x 4 IN	0.12	229.17	RSP 2 IN x 2 IN	0.11
3	554.25	RSP 2 IN x 6 IN	0.09	806.00	RSP 4 IN x 4 IN	0.1	229.17	RSP 2 IN x 2 IN	0.11
4	554.25	RSP 2 IN x 6 IN	0.09	806.00	RSP 4 IN x 4 IN	0.1	229.17	RSP 2 IN x 2 IN	0.11
5	303.75	RSP 2 IN x 4 IN	0.07	448.00	RSP 2 IN x 4 IN	0.11	433.34	RSP 2 IN x 4 IN	0.1
6	303.75	RSP 2 IN x 4 IN	0.07	448.00	RSP 2 IN x 4 IN	0.11	433.34	RSP 2 IN x 4 IN	0.1
7	622.25	RSP 2 IN x 6 IN	0.1	1,085.25	RSP 4 IN x 6 IN	0.09	204.17	RSP 2 IN x 2 IN	0.1
8	622.25	RSP 2 IN x 6 IN	0.1	1,085.25	RSP 4 IN x 6 IN	0.09	204.17	RSP 2 IN x 2 IN	0.1
9	996.25	RSP 4 IN x 4 IN	0.12	1,638.75	RSP 6 IN x 6 IN	0.09	524.50	RSP 2 IN x 4 IN	0.13
10	996.25	RSP 4 IN x 4 IN	0.12	1,638.75	RSP 6 IN x 6 IN	0.09	524.50	RSP 2 IN x 4 IN	0.13
11	471.25	RSP 2 IN x 4 IN	0.11	696.50	RSP 2 IN x 6 IN	0.11	320.33	RSP 2 IN x 2 IN	0.15
12	471.25	RSP 2 IN x 4 IN	0.11	696.50	RSP 2 IN x 6 IN	0.11	320.33	RSP 2 IN x 2 IN	0.15
13							320.33	RSP 2 IN x 2 IN	0.15
14							320.33	RSP 2 IN x 2 IN	0.15

ORIENTATION LBL			
ISO/REST QTY	12 PER TAG, 12 TOTAL	12 PER TAG, 12 TOTAL	14 PER TAG, 14 TOTAL
CG LEN/WDTH	N/A	N/A	N/A
UNIT WEIGHT	6,591.00 lbs	10,351.00 lbs	4,522.02 lbs
MAN/MODEL	Daikin/OAH011GDGM	Daikin/OAH022GDGM	Daikin/OAH013GDGM
REPRESENTATIVE	HTS	Designer	Ben Phan

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

KINETICS Noise Control

TITLE	DATE	KNC	Project Name	Engineer
TAILORED SUBMITTAL ISOLATION LOCATIONS	04/26/2024	22006063	Chris Gibson Recreation Centre	Integral Group

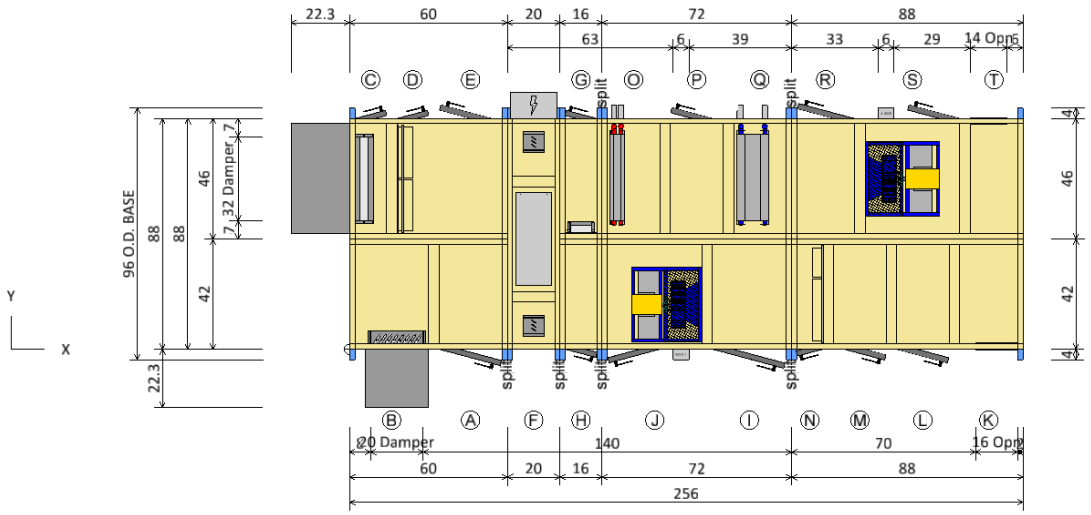


Tag	AHU-A-8								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	436.75	RSP 2 IN x 4 IN	0.1						
2	436.75	RSP 2 IN x 4 IN	0.1						
3	703.50	RSP 2 IN x 6 IN	0.11						
4	703.50	RSP 2 IN x 6 IN	0.11						
5	407.75	RSP 2 IN x 4 IN	0.1						
6	407.75	RSP 2 IN x 4 IN	0.1						
7	850.00	RSP 4 IN x 4 IN	0.1						
8	850.00	RSP 4 IN x 4 IN	0.1						
9	1,117.25	RSP 4 IN x 6 IN	0.09						
10	1,117.25	RSP 4 IN x 6 IN	0.09						
11	915.00	RSP 4 IN x 4 IN	0.11						
12	915.00	RSP 4 IN x 4 IN	0.11						
13	506.75	RSP 2 IN x 4 IN	0.12						
14	506.75	RSP 2 IN x 4 IN	0.12						

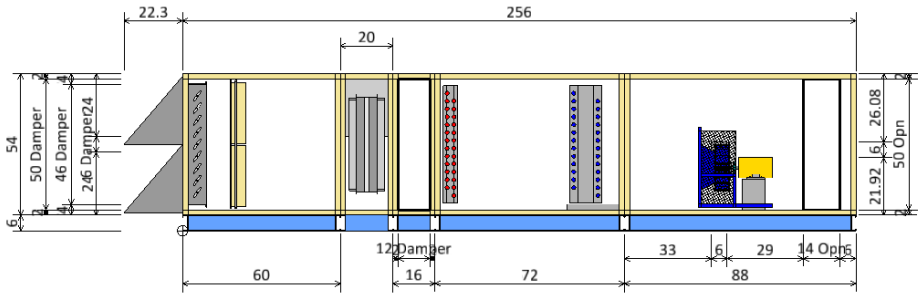
ORIENTATION LBL							
ISO/REST QTY	14 PER TAG, 14 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	9,874.00 lbs						
MAN/MODEL	Daikin/OAH017GDGM						
REPRESENTATIVE	HTS		Designer		Ben Phan		

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

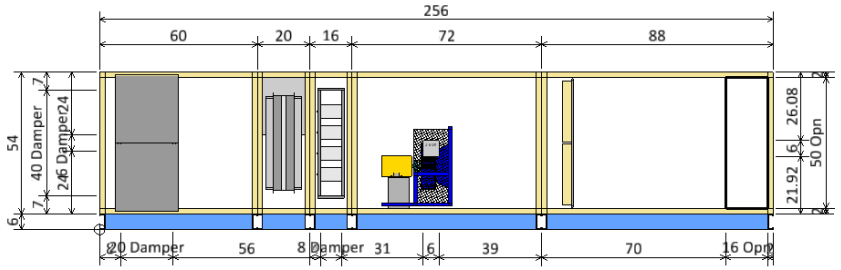
KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	05/02/2024	22006063	Chris Gibson Recreation Centre	Integral Group



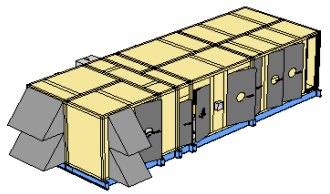
PLAN VIEW

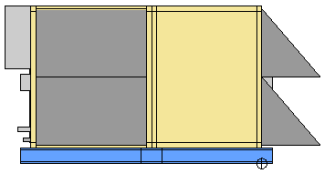


LEFT DECK ELEVATION VIEW

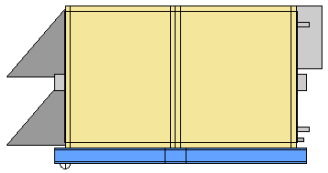


ISOMETRIC VIEW





FRONT END VIEW



REAR END VIEW

Product Drawing	Unit Tag: AHU-A-2			Sales Office: HTS Engineering Ltd.		
Product: Skyline Air Handler	Project Name: 22006063 Chris Gibson Recreation Centre			Sales Engineer:		
Model: OAH011GDGM	Feb. 12, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

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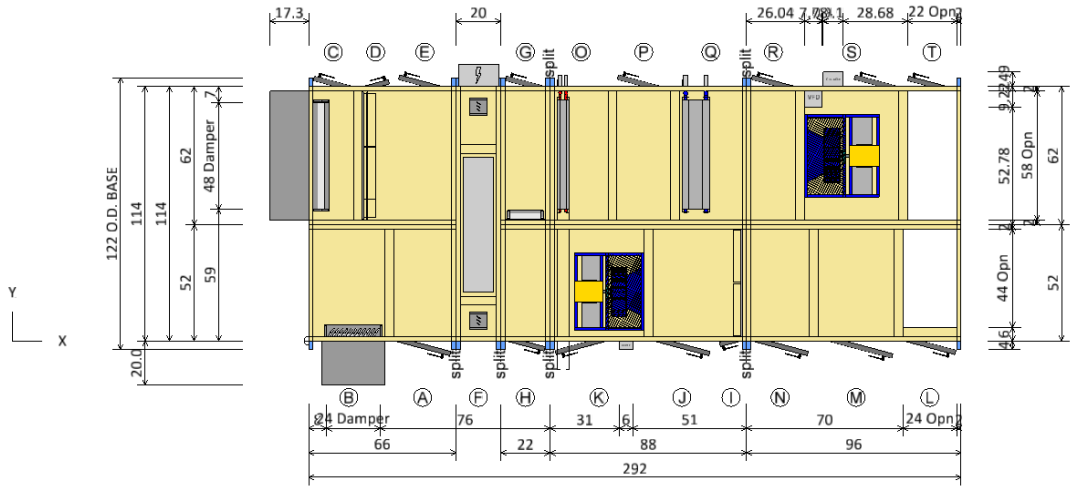
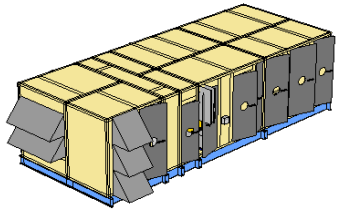
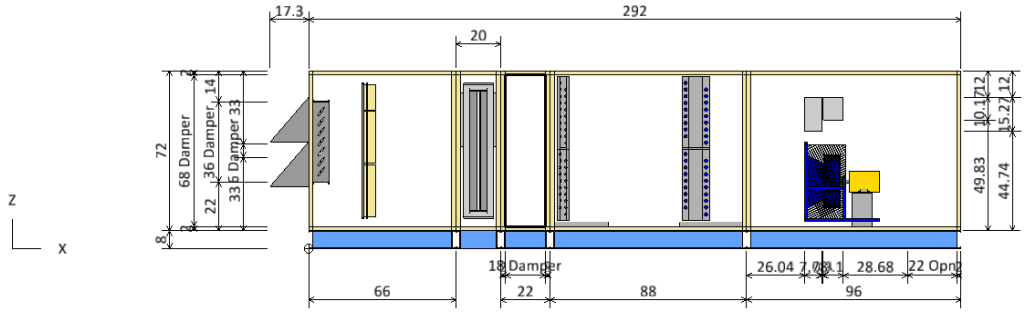
www.DaikinApplied.com Software Version: 13.31

All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.



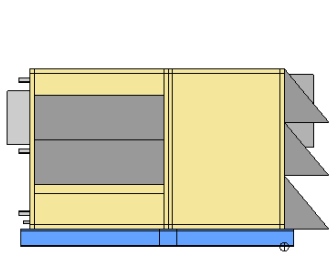


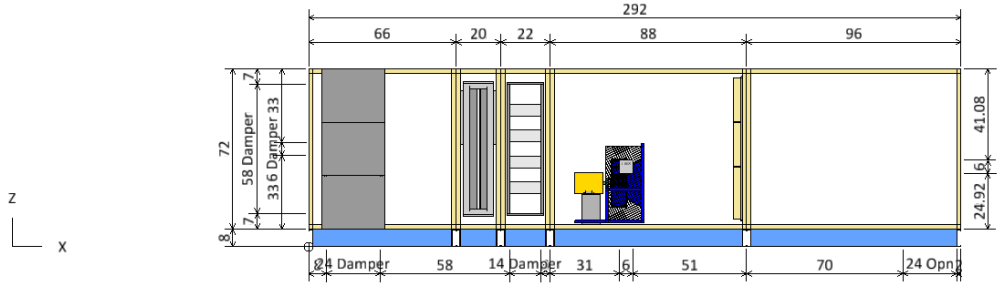
PLAN VIEW

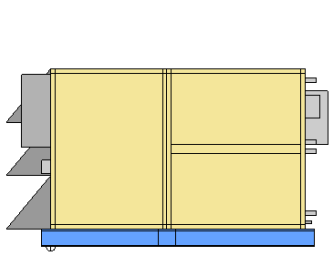


LEFT DECK ELEVATION VIEW

ISOMETRIC VIEW







FRONT END VIEW

RIGHT DECK ELEVATION VIEW

REAR END VIEW

Product Drawing	Unit Tag: AHU-A-3			Sales Office: HTS Engineering Ltd.		
Product: Skyline Air Handler	Project Name: 22006063 Chris Gibson Recreation Centre			Sales Engineer:		
Model: OAH022GDGM	Feb. 12, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

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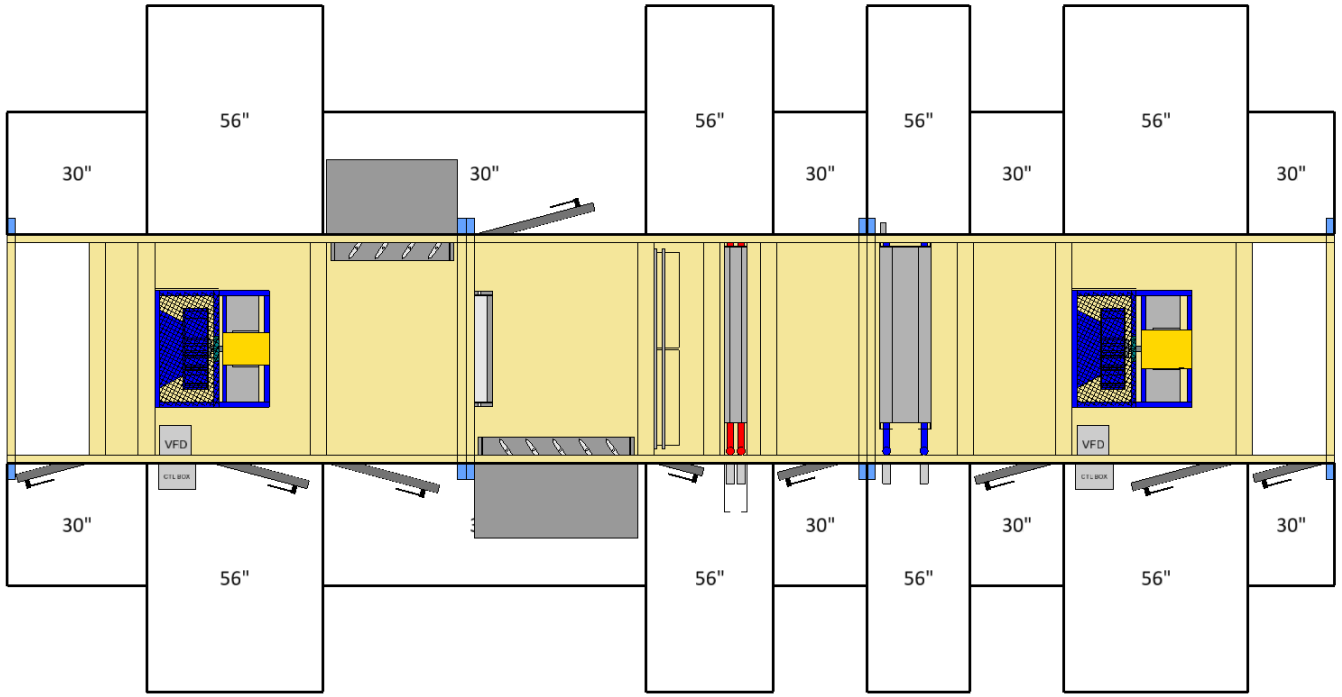
All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.



PLAN VIEW

Notes

Check local electrical component service clearance codes for specific distances.

Access is only required on one side of the unit.

Service Clearance View	Unit Tag: AHU-A-4			Sales Office: HTS Engineering Ltd.		
Product: Skyline Air Handler	Project Name: 22006063 Chris Gibson Recreation Centre			Sales Engineer:		
Model: OAH013GDGM	Feb. 12, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

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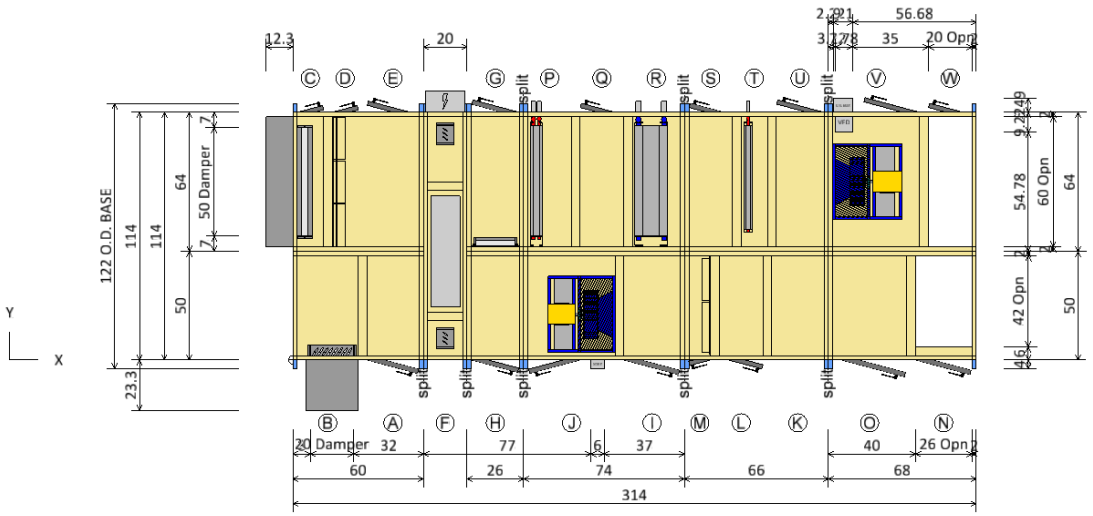

Product Drawing	Unit Tag: AHU-A-8			Sales Office: HTS Engineering Ltd.		
Product: Skyline Air Handler	Project Name: 22006063 Chris Gibson Recreation Centre			Sales Engineer:		
Model: OAH017GDGM	Feb. 12, 2024	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in

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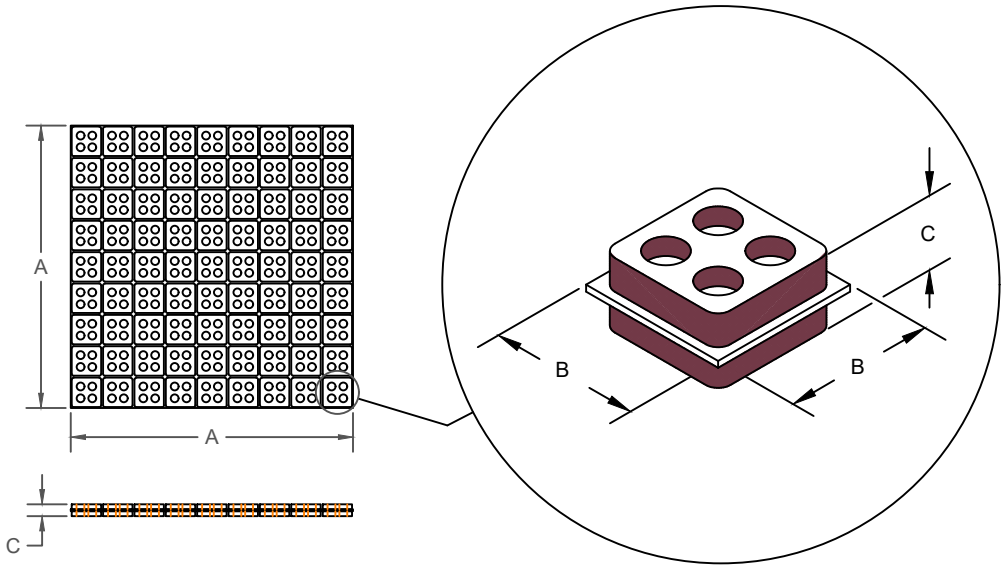
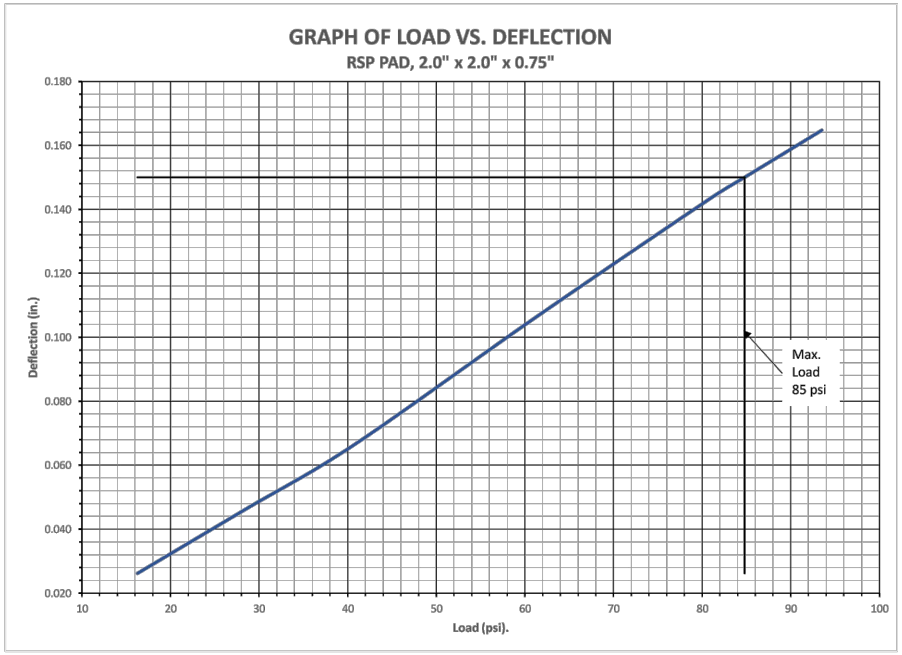
All opening dimensions have a 1" mounting flange along the inner edge. The actual airflow area of the opening is 2" smaller in each dimension.

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





SPECIFICATIONS:

- FULL SHEET IS 18 X 18 X 0.75.
- CONTAINS (81) 2 X 2 PADS.
- MAX LOAD RATING FOR EACH 2 X 2 PAD IS 340 LBS.
- RAW MATERIAL 55 DURO EPDM.

KINETICS Noise Control®

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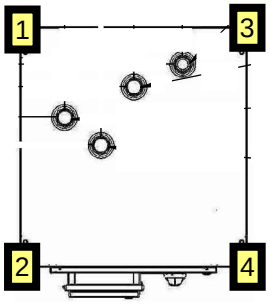
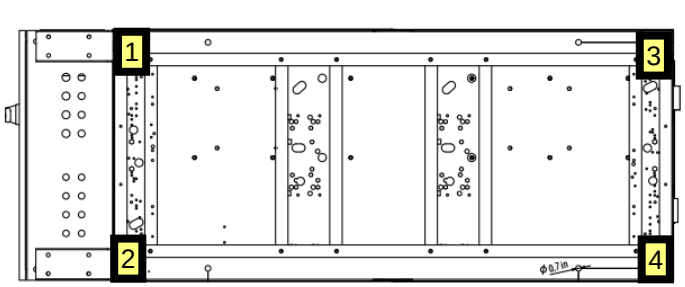
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

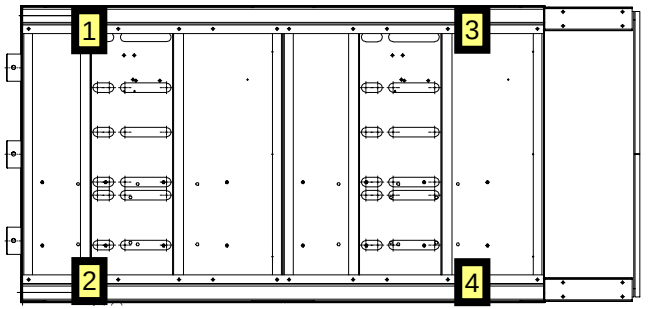
Model: RSP PAD

By: JMJ
Date: 05/16/03
Revised: 1/30/24 / SMB

Drawing No: S-02.04-11







Tag	WSHP-01			WSHP-02A			WSHP-02B		
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.
1	325.00	RDB-375	0.43	600.75	RDC-1100	0.27	1,512.00	RDD-2250	0.34
2	325.00	RDB-375	0.43	600.75	RDC-1100	0.27	952.00	RDC-1100	0.43
3	325.00	RDB-375	0.43	600.75	RDC-1100	0.27	1,232.00	RDD-2250	0.27
4	325.00	RDB-375	0.43	600.75	RDC-1100	0.27	1,904.00	RDD-2250	0.42

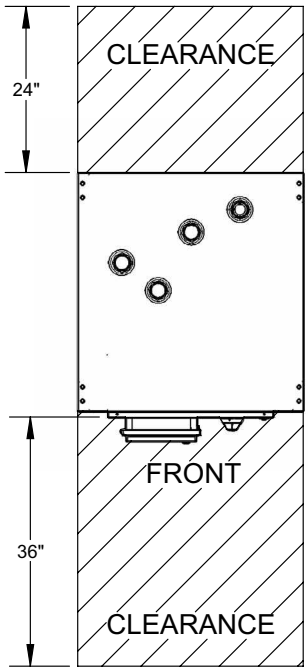
ORIENTATION LBL			
ISO/REST QTY	4 PER TAG, 4 TOTAL	4 PER TAG, 4 TOTAL	4 PER TAG, 4 TOTAL
CG LEN/WDTH	N/A	N/A	N/A
UNIT WEIGHT	1,300.00 lbs	2,403.00 lbs	5,600.00 lbs
MAN/MODEL	Nyle Systems/C270WM	Aermec/NXW0750°HL°°8°°	Aermec/NXP1400°4L8°°
REPRESENTATIVE	HTS	Designer	Ben Phan

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

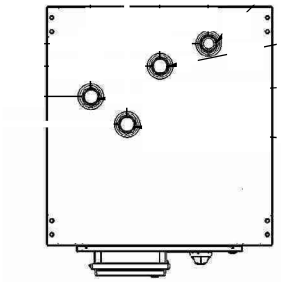
KINETICS Noise Control	**TITLE** TAILORED SUBMITTAL ISOLATION LOCATIONS	**DATE** 04/26/2024	**KNC** 22006063	**Project Name** Chris Gibson Recreation Centre	**Engineer** Integral Group

C270WM Unit – Dimensions

WATER CONNECTIONS AND REQUIRED CLEARANCES

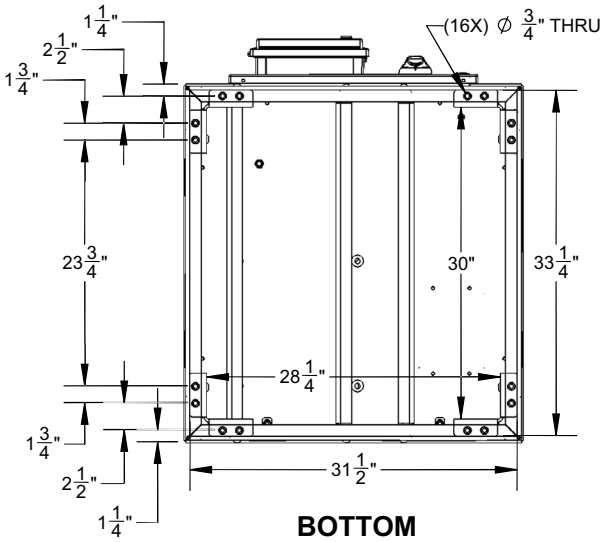


TOP



TOP

ANCHOR LOCATIONS



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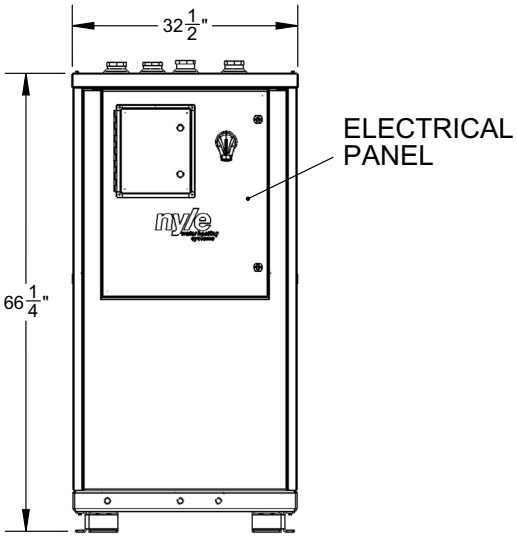
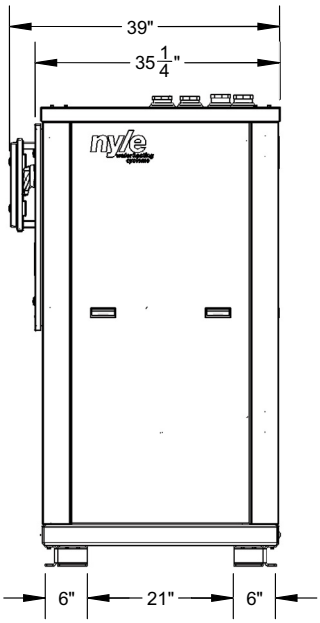
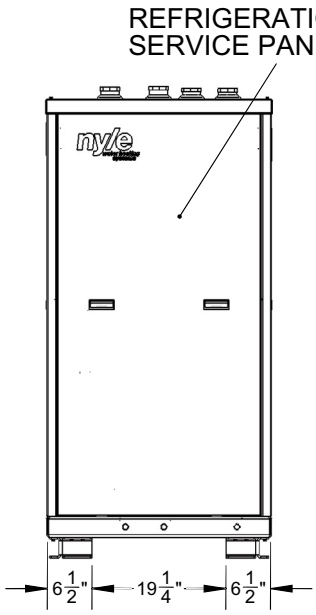


FRONT



LEFT



BACK

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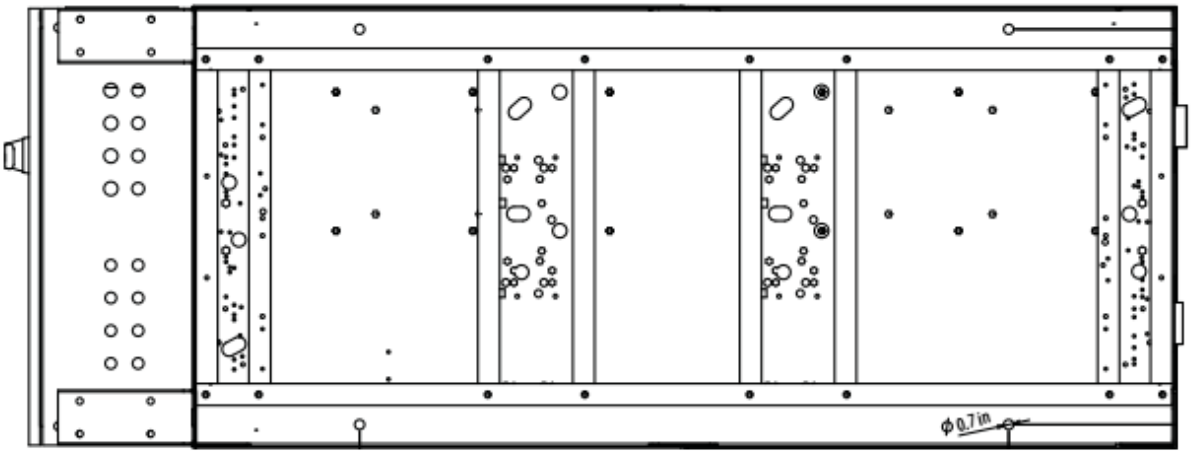
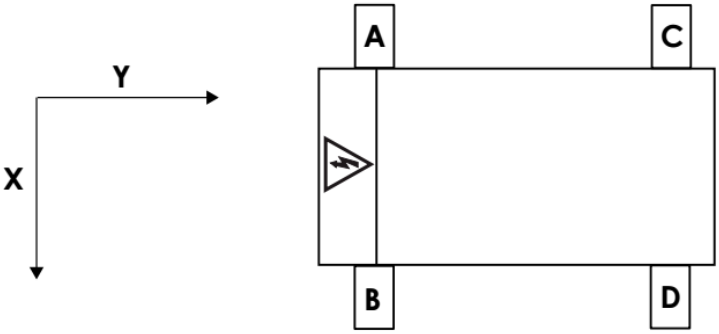
Weight Distribution





Size			0750
Weights			
Empty weight	L	lbs	2,271
Weight functioning	L	lbs	2,381
Centre of gravity (empty)			
X	L	in	16.0
Y	L	in	46.7
Weight distribution in % on the supports (empty)			
A	L	%	22.1%
B	L	%	22.8%
C	L	%	27.1%
D	L	%	28.0%

NXP_[1000-1250-1400-1500-1650]_[°]_[L]_[2-4]_[°]_[6-7-8-9]_[°]_[°]

Legenda
EVAP = Scambiatore lato (caldo/freddo)
REC = Scambiatore lato (sanitario)
COND = Scambiatore lato (geotermico)

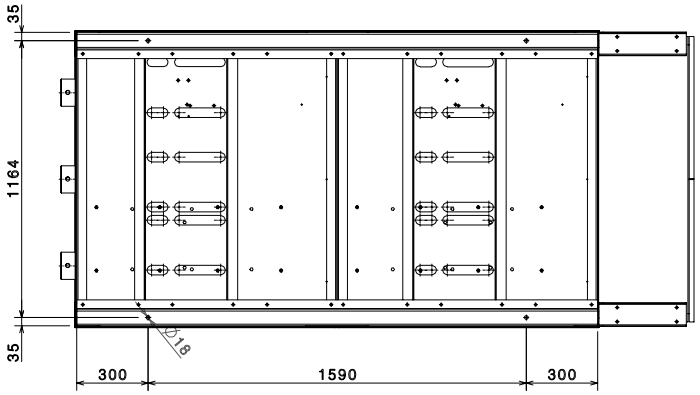
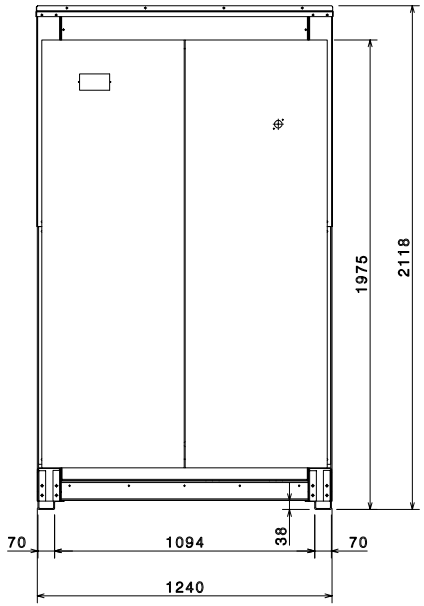
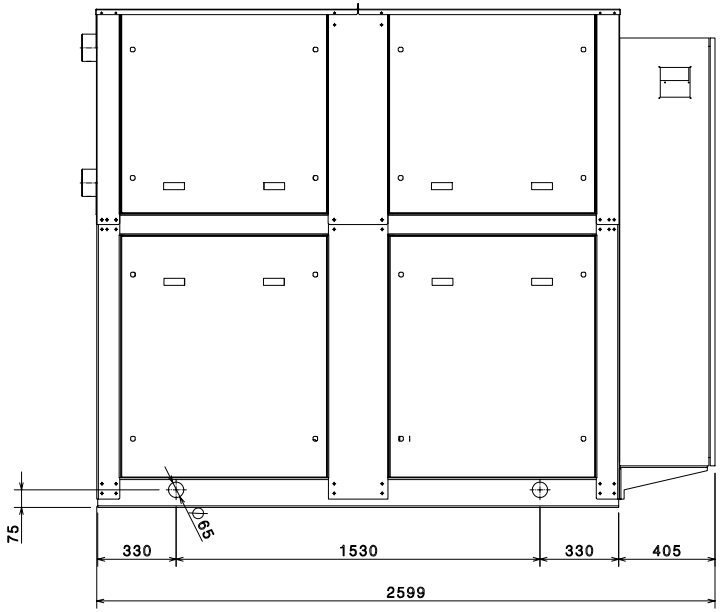
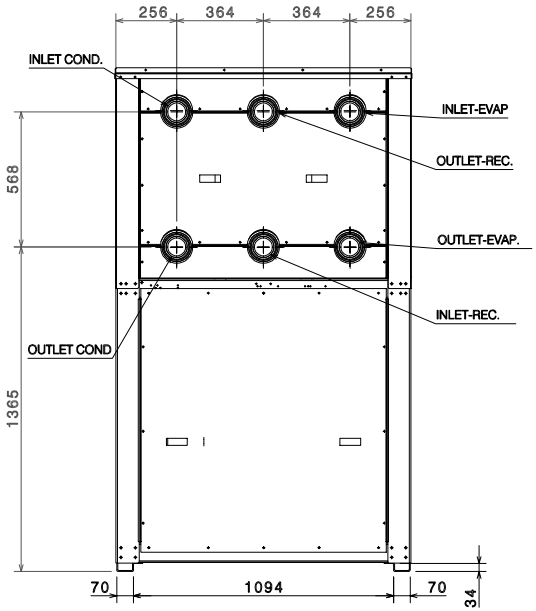


TABELLA ATTACCHI IDRAULICI			
MODELLO	DIAMETRO	POLLICI	
NXP1000	Ø 114.3	4"	
NXP1250	Ø 114.3	4"	
NXP1400	Ø 114.3	4"	
NXP1500	Ø 114.3	4"	
NXP1650	Ø 114.3	4"	







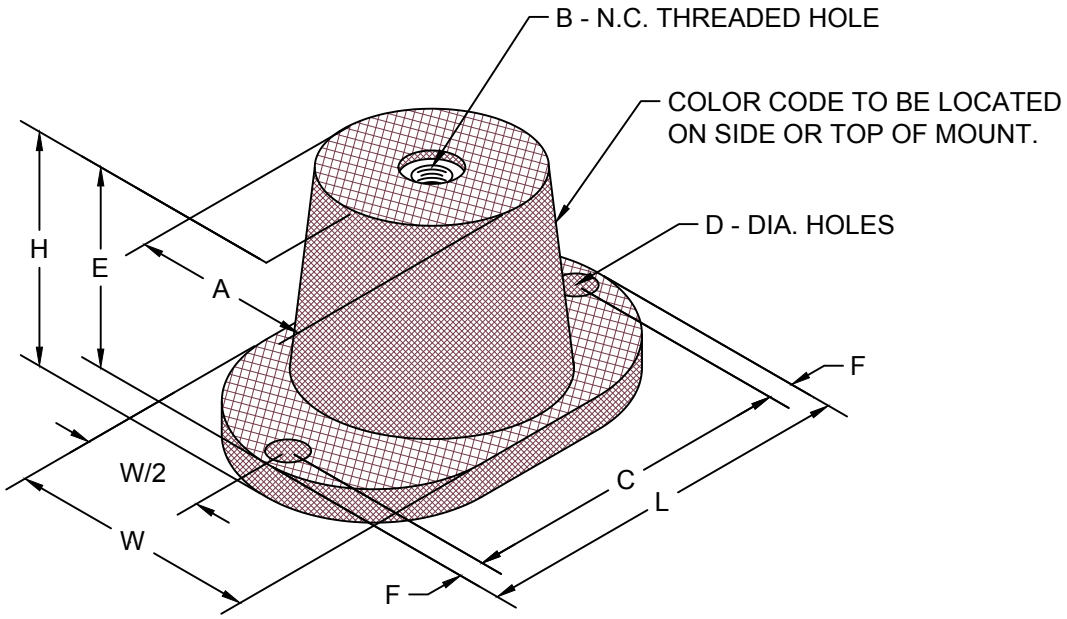
RD MOUNT

IP UNITS (INCHES AND POUNDS)

TYPE	L	W	A	B	C	D	E	H
RDA-55/125	3.19	1.81	1.25	0.31	2.38	0.34	1.31	1.50
RDB-120/375	3.88	2.38	1.75	0.38	3.00	0.34	1.50	1.75
RDC-250/1100	5.50	3.25	2.50	0.50	4.13	0.56	2.25	2.50
RDD-2250/4000	6.25	4.63	3.75	0.50	5.00	0.56	2.38	2.75

STANDARD RATINGS

	TYPE	SIZE	DURO SHORE A	COLOR	RATED LOAD	RATED DEFL.
	RDA	55	50	YELLOW	55	0.40
	RDA	125	70	BLUE	125	0.40
	RDB	120	45	ORANGE	120	0.50
	RDB	220	55	GREEN	220	0.50
	RDB	375	65	BLUE	375	0.50
	RDC	250	55	YELLOW	250	0.50
	RDC	600	60	BLUE	600	0.50
	RDC	1100	70	WHITE	1100	0.50
*	RDD	2250	50	RED	2250	0.50
*	RDD	3000	60	GREEN	3000	0.50
*	RDD	4000	70	GRAY	4000	0.50



NOTES:

- RD MOUNTS HAVE TOP AND BOTTOM STEEL LOAD PLATES CAST INTO THE ELASTOMER.
- ITEMS MARKED (*) HAVE RECTANGULAR BASE PLATE.
- RD COLOR REFERS TO A COLOR MARK LOCATED ON THE TOP OR SIDE OF THE MOUNT.

KINETICS Noise Control

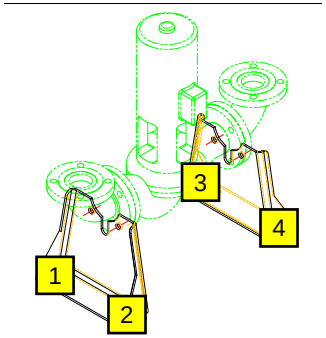
Member VISCMA Vibration Isolation and Seismic Control Manufacturers Association

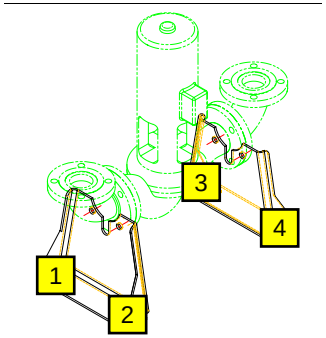
KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

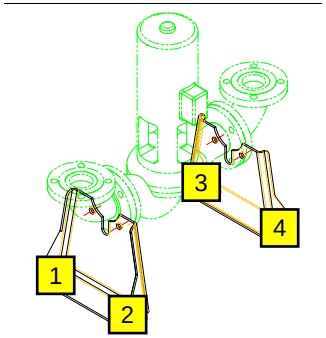
Model: RD MOUNT

By: JMJ
Date: 05/23/03
Revised: 04/10/15 / BB

Drawing No: S-02.05-11







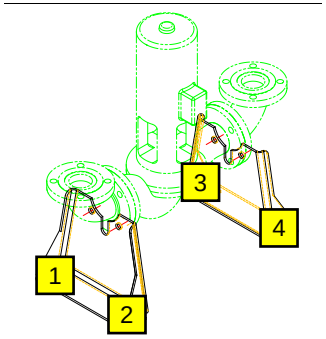
Tag	PH-01/02/03			PH-05/06			PH-07		
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.
1	118.50	RSP 4 IN x 4 IN	0.01	205.50	RSP 4 IN. 4 IN.	0.02	93.75	RSP 4 IN x 4 IN	0.01
2	118.50	RSP 4 IN x 4 IN	0.01	205.50	RSP 4 IN x 4 IN	0.02	93.75	RSP 4 IN x 4 IN	0.01
3	118.50	RSP 4 IN x 4 IN	0.01	205.50	RSP 4 IN. 4 IN.	0.02	93.75	RSP 4 IN x 4 IN	0.01
4	118.50	RSP 4 IN x 4 IN	0.01	205.50	RSP 4 IN x 4 IN	0.02	93.75	RSP 4 IN x 4 IN	0.01

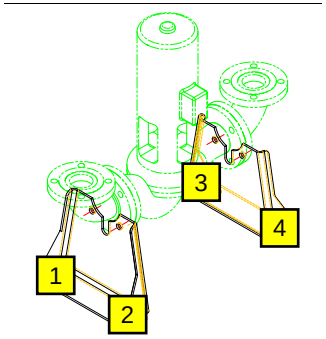
ORIENTATION LBL			
ISO/REST QTY	4 PER TAG, 12 TOTAL	4 PER TAG, 8 TOTAL	4 PER TAG, 4 TOTAL
CG LEN/WDTH	N/A	N/A	N/A
UNIT WEIGHT	474.00 lbs	822.00 lbs	375.00 lbs
MAN/MODEL	Bell & Gossett/e-80SC 2.5x2.5x9.5C	Bell & Gossett/e-80SC 4x4x9.5B	Bell & Gossett/e-80 3x3x7C
REPRESENTATIVE	HTS	Designer	Ben Phan

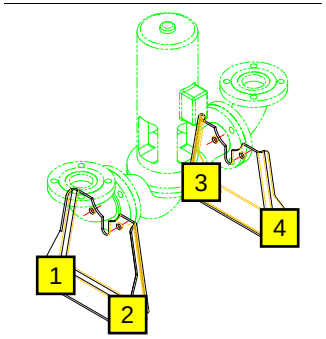
REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

EQUIPMENT WEIGHT INCLUDES SUCTION DIFFUSER, TRIPLE DUTY VALVE & PIPING WEIGHT

KINETICS Noise Control	**TITLE** TAILORED SUBMITTAL ISOLATION LOCATIONS	**DATE** 05/02/2024	**KNC** 22006063	**Project Name** Chris Gibson Recreation Centre	**Engineer** Integral Group







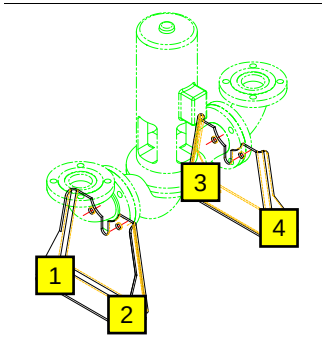
Tag	PH-08/09			PH-10			PH-11/12		
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.
1	236.75	RSP 4 IN. 4 IN.	0.03	94.75	RSP 4 IN. 4 IN.	0.01	205.20	RSP 4 IN. 4 IN.	0.02
2	236.75	RSP 4 IN. 4 IN.	0.03	94.75	RSP 4 IN. 4 IN.	0.01	205.20	RSP 4 IN. 4 IN.	0.02
3	236.75	RSP 4 IN. 4 IN.	0.03	94.75	RSP 4 IN x 4 IN	0.01	205.20	RSP 4 IN. 4 IN.	0.02
4	236.75	RSP 4 IN x 4 IN	0.03	94.75	RSP 4 IN x 4 IN	0.01	205.20	RSP 4 IN x 4 IN	0.02

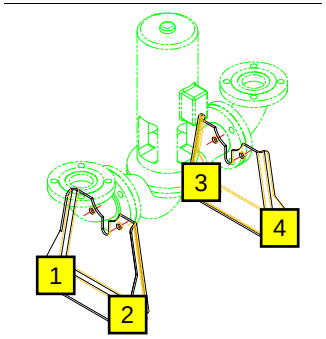
ORIENTATION LBL			
ISO/REST QTY	4 PER TAG, 8 TOTAL	4 PER TAG, 4 TOTAL	4 PER TAG, 8 TOTAL
CG LEN/WDTH	N/A	N/A	N/A
UNIT WEIGHT	947.00 lbs	379.00 lbs	820.80 lbs
MAN/MODEL	Bell & Gossett/e-80SC 4x4x9.5B	Bell & Gossett/e-80 2.5x2.5x9.5C	Bell & Gossett/e-80SC 4x4x9.5B
REPRESENTATIVE	HTS	Designer	Ben Phan

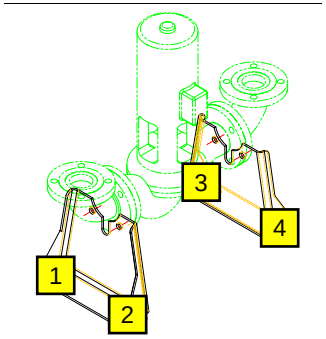
REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

EQUIPMENT WEIGHT INCLUDES SUCTION DIFFUSER, TRIPLE DUTY VALVE & PIPING WEIGHT

KINETICS Noise Control	**TITLE** TAILORED SUBMITTAL ISOLATION LOCATIONS	**DATE** 05/02/2024	**KNC** 22006063	**Project Name** Chris Gibson Recreation Centre	**Engineer** Integral Group







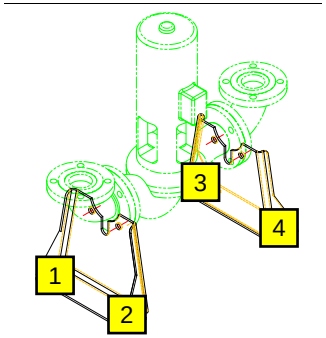
Tag	PH-14/15			PH-16			PH-17/18		
Iso Num	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.	Load lbs	Isolator	Defl in.
1	236.75	RSP 4 IN x 4 IN	0.03	94.75	RSP 4 IN x 4 IN	0.01	70.75	RSP 4 IN x 4 IN	0.01
2	236.75	RSP 4 IN. 4 IN.	0.03	94.75	RSP 4 IN x 4 IN	0.01	70.75	RSP 4 IN x 4 IN	0.01
3	236.75	RSP 4 IN. 4 IN.	0.03	94.75	RSP 4 IN x 4 IN	0.01	70.75	RSP 4 IN x 4 IN	0.01
4	236.75	RSP 4 IN x 4 IN	0.03	94.75	RSP 4 IN x 4 IN	0.01	70.75	RSP 4 IN x 4 IN	0.01

ORIENTATION LBL			
ISO/REST QTY	4 PER TAG, 8 TOTAL	4 PER TAG, 4 TOTAL	4 PER TAG, 8 TOTAL
CG LEN/WDTH	N/A	N/A	N/A
UNIT WEIGHT	947.00 lbs	379.00 lbs	283.00 lbs
MAN/MODEL	Bell & Gossett/e-80SC 4x4x9.5B	Bell & Gossett/e-80 2.5x2.5x9.5C	Bell & Gossett/e-80 1.5x1.5x9.5B
REPRESENTATIVE	HTS	Designer	Ben Phan

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

EQUIPMENT WEIGHT INCLUDES SUCTION DIFFUSER, TRIPLE DUTY VALVE & PIPING WEIGHT

KINETICS Noise Control	**TITLE** TAILORED SUBMITTAL ISOLATION LOCATIONS	**DATE** 05/02/2024	**KNC** 22006063	**Project Name** Chris Gibson Recreation Centre	**Engineer** Integral Group



Tag	PH-22								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	25.00	RSP 4 IN x 4 IN	0						
2	25.00	RSP 4 IN x 4 IN	0						
3	25.00	RSP 4 IN x 4 IN	0						
4	25.00	RSP 4 IN. 4 IN.	0						

ORIENTATION LBL							
ISO/REST QTY	4 PER TAG, 4 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	100.00 lbs						
MAN/MODEL	Bell & Gossett/1.25AAB Series e-90						
REPRESENTATIVE	HTS		Designer		Ben Phan		

REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

EQUIPMENT WEIGHT INCLUDES WATER WEIGHT

KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	05/02/2024	22006063	Chris Gibson Recreation Centre	Integral Group

LDPS LIGHT DUTY PUMP STAND DIMENSIONAL DATA

NOMINAL STAND SIZE (IN)	DIMENSION												WEIGHT PER SET (LBS)
	A	B	C	D	E	F	G	H	J	K	L	M	
1 1/4	4.00	14.00	11.50	7.31	12.00	1.13	0.63	3.50	10.00	0.63	2.09	2.38	16
1 1/2	4.00	14.00	11.50	7.31	12.00	1.13	0.63	3.88	10.00	0.63	2.09	2.75	16
2	4.00	14.00	11.50	8.25	12.00	1.25	0.75	4.75	10.00	0.63	2.19	3.50	30
2 1/2	4.00	14.00	11.50	9.25	12.00	1.25	0.75	5.50	10.00	0.63	2.19	4.00	30
3	4.00	14.00	11.50	10.19	12.00	1.25	0.75	6.00	10.00	0.63	2.19	4.50	31
4	4.00	18.00	14.50	11.75	15.00	1.25	0.75	7.50	14.00	0.75	2.19	6.00	44
5	4.00	18.00	14.50	12.69	15.00	1.25	0.88	8.50	14.00	0.75	2.19	7.00	44
6	4.00	18.00	14.38	13.69	15.00	1.25	0.88	9.50	14.00	0.75	2.19	8.00	44
8	4.00	18.00	14.38	14.63	15.00	1.88	0.88	11.75	14.00	0.88	2.28	10.00	65

SPECIFICATIONS:
- KNC STANDARD COLOR PAINTED FINISH
- ANSI STANDARD BOLTING PATTERN

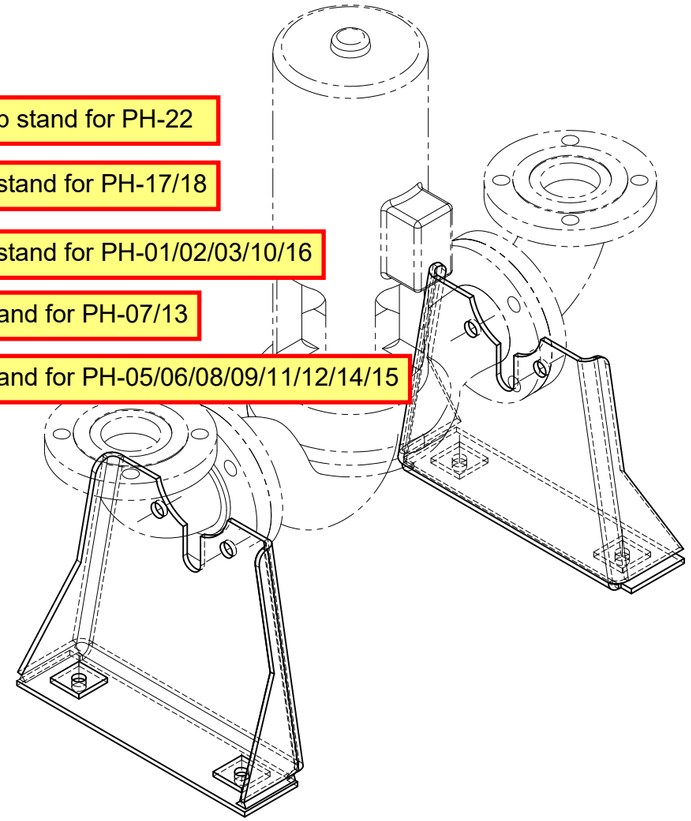
Qty. (1) pairs of 1.2.5" pump stand for PH-22

Qty. (2) pairs of 1.5" pump stand for PH-17/18

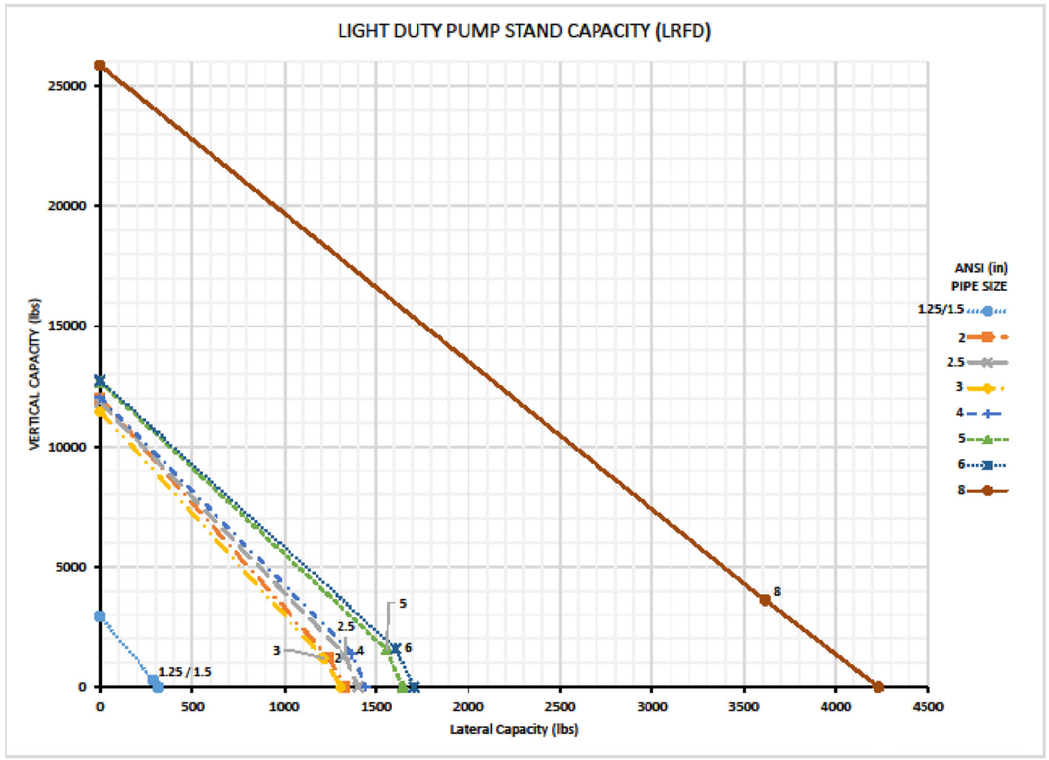
Qty. (5) pairs of 2.5" pump stand for PH-01/02/03/10/16

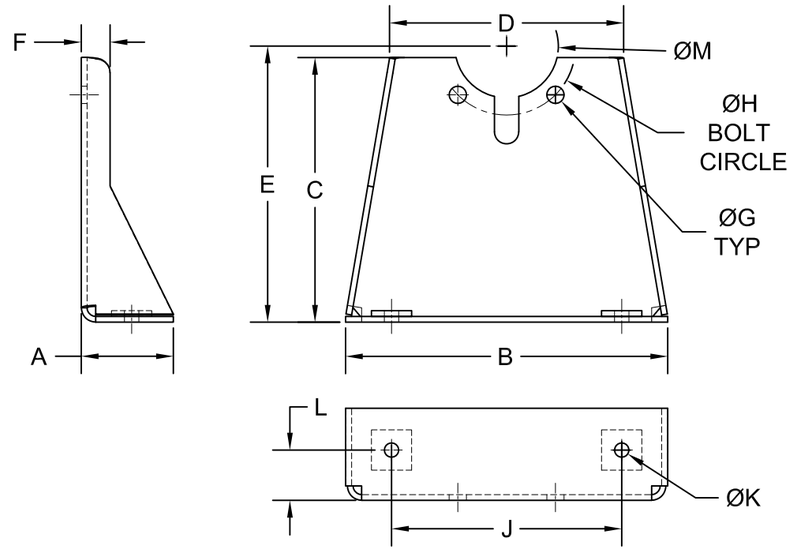
Qty. (2) pairs of 3" pump stand for PH-07/13

Qty. (8) pairs of 4" pump stand for PH-05/06/08/09/11/12/14/15



NOTES:
1. LISTED CAPACITY IS FOR A COMPLETE SET OF STANDS (NOT INDIVIDUAL COMPONENTS).
2. TO ACHIEVE FULL CAPACITY, IF ISOLATED, THE BRACKETS MUST BE COUPLED TOGETHER WITH A RIGID BASEPLATE (BY OTHERS).
3. LISTED CAPACITY IS FOR AN ASSEMBLY THAT IS HARD BOLTED TO THE STRUCTURE USING A307 BOLTS.
4. ATTACHMENT TO CONCRETE OR WOOD WILL REDUCE THE CAPACITY DEPENDING ON THE HARDWARE USED.
5. IF MOUNTED TO AN OUT OF LEVEL SURFACE, THE BASE SHOULD BE FULLY SUPPORTED WITH GROUT. LOCAL SHIMS ARE INSUFFICIENT.





KINETICS Noise Control®	VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION	KINETICS NOISE CONTROL, INC 6300 IRELAN PL, DUBLIN, OH 43017 USA Ph: 614 889-0480, Fax: 614 889-0540 www.kineticsnoise.com	Model: LDPS PUMP STAND

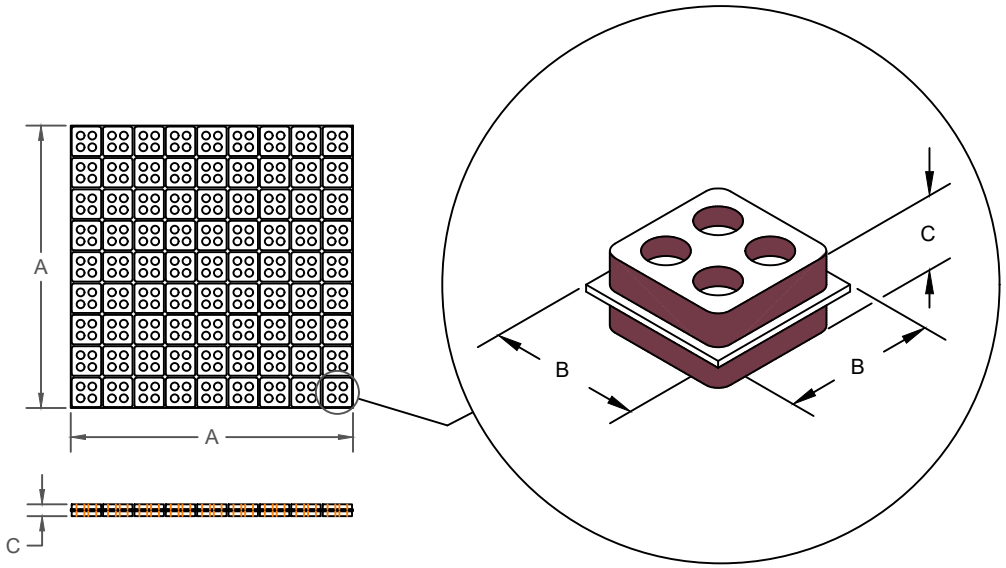
By:	BB
Date:	11/24/15
Revised:	02/15/24 / JW

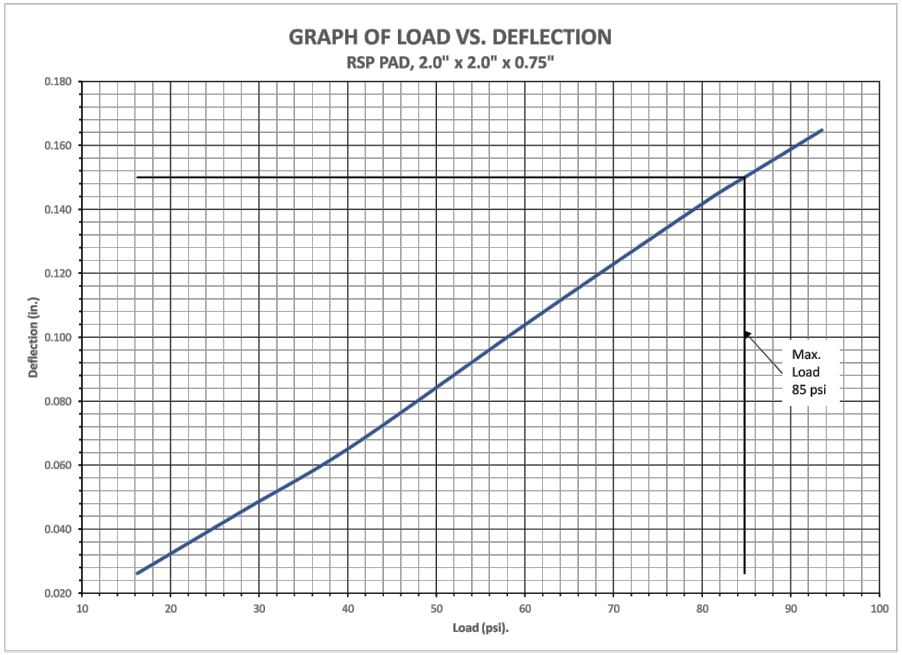
Drawing No: S-46.20-1A

RSP ISOLATION PAD

TYPE	A	B	C
RSP	18.00	2.00	0.75

I-P UNITS (INCHES AND POUNDS)





SPECIFICATIONS:

- FULL SHEET IS 18 X 18 X 0.75.
- CONTAINS (81) 2 X 2 PADS.
- MAX LOAD RATING FOR EACH 2 X 2 PAD IS 340 LBS.
- RAW MATERIAL 55 DURO EPDM.

KINETICS Noise Control®

VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION

KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

Model: RSP PAD

By: JMJ
Date: 05/16/03
Revised: 1/30/24 / SMB

Drawing No: S-02.04-11

Tag	PH-19								
Iso Num	Load lbs	Isolator	Defl in.		Isolator			Isolator	
1	40.00	KCI-A-1L-50	0.8						
2	40.00	KCI-A-1L-50	0.8						

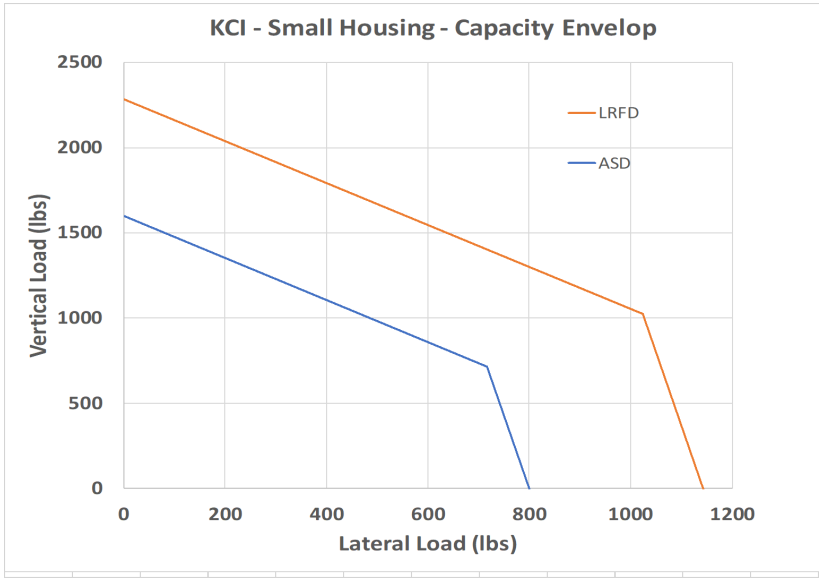
ORIENTATION LBL							
ISO/REST QTY	2 PER TAG, 2 TOTAL						
CG LEN/WDTH	N/A						
UNIT WEIGHT	80.00 lbs						
MAN/MODEL	Xylem/3SV2TA4F60						
REPRESENTATIVE	HTS	Designer		Ben Phan			

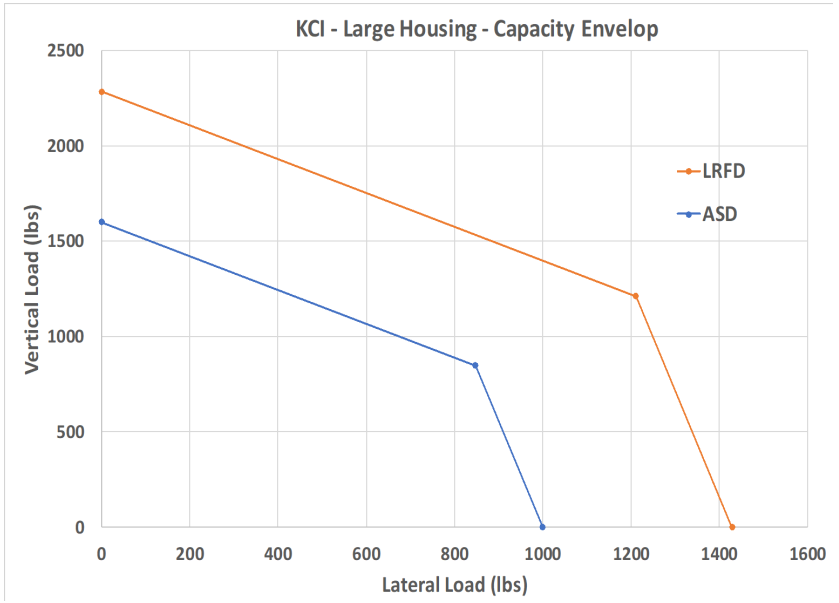
REFERENCE/ COMMENTS	COMPONENTS SELECTED FOR VIBRATION ISOLATION ONLY. WIND/SEISMIC RESTRAINT IS TO BE BY OTHERS. CENTER OF GRAVITY IS ASSUMED TO BE THE GEOMETRIC CENTER OF THE ISOLATED EQUIPMENT UNLESS OTHERWISE SPECIFIED.

EQUIPMENT WEIGHT INCLUDES WATER WEIGHT

KINETICS Noise Control	TITLE	DATE	KNC	Project Name	Engineer
	TAILORED SUBMITTAL ISOLATION LOCATIONS	05/02/2024	22006063	Chris Gibson Recreation Centre	Integral Group

IP UNITS (INCHES AND POUNDS), USE WITH SHEET 1.





MODEL	SPRING					DIMENSIONS									RESTRAINT CAPACITY	
	COLOR	FREE HT.	O.D.	RATED LOAD	RATED DEFLECTION	A	D	E	H	L	L1	L2	W	W2	VERTICAL	HORIZONTAL
KCI-A-1-12	SILVER	3.19	1.75	12	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-18	YELLOW	3.19	1.75	18	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-24	BLUE	3.19	1.75	35	1.52	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-30	PINK	3.19	1.75	30	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-37	WHITE	3.19	1.75	37	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1S-50*	GREEN	3.19	1.75	70	1.36	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-75	BLACK	3.19	1.75	74	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1S-100*	GRAY	3.19	1.75	120	1.18	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-150	RED	3.19	1.75	150	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-210	BROWN	3.19	1.75	220	1.07	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-300	PURPLE	3.19	1.75	300	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-385	ORANGE	3.19	1.75	370	0.96	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1-500	BEIGE	3.19	1.75	500	1.00	0.50	0.56	1.00	4.50	7.00	6.00	6.59	2.00	2.12	1,600	800
KCI-A-1L-50*	BEIGE	4.20	3.00	50	1.00	0.75	0.69	1.75	5.50	10.50	9.00	8.56	3.50	3.63	1,600	1,000
KCI-A-1L-100*	CHROME	4.20	3.00	100	1.00	0.75	0.69	1.75	5.50	10.50	9.00	8.56	3.50	3.63	1,600	1,000
KCI-A-1-250	BLUE	4.20	3.00	250	1.79	0.75	0.69	1.75	5.50	10.50	9.00	8.56	3.50	3.63	1,600	1,000
KCI-A-1-450	GREEN	4.20	3.00	450	1.54	0.75	0.69	1.75	5.50	10.50	9.00	8.56	3.50	3.63	1,600	1,000
KCI-A-1-625	BLACK	4.20	3.00	625	1.44	0.75	0.69	1.75	5.50	10.50	9.00	8.56	3.50	3.63	1,600	1,000

*KCI Models with an "S" or "L" indicate there is both a small and large housing with the same loading capacity. Please note that these are different isolators although identical capacities.

KINETICS Noise Control	TITLE	REVISION DATE	REVISED BY	DRAWING NO.
	KCI-A-1 SPRING ISOLATOR	09/21/22	BB	S-01.37-110
				WEIGHT: Lbs SHEET 2 OF 3

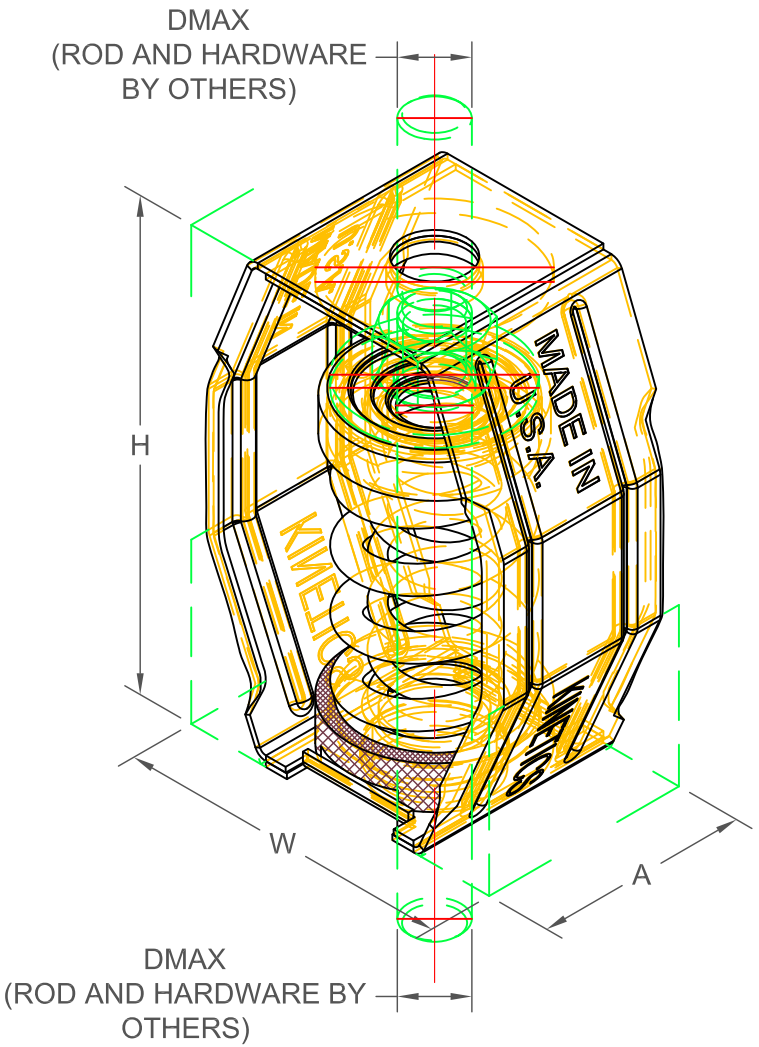
SH 1" DEFLECTION ISOLATION HANGERS

IP UNITS (INCHES AND POUNDS)

TYPE	H	W	A	D_{MAX}
1-12/370	5.25	3.69	2.25	0.63
1-500/600	5.25	3.69	2.25	0.63
1-700/805	5.25	3.69	2.25	0.63

STANDARD RATINGS				SPRING COIL COLOR		FREE	
TYPE	SIZE	LOAD	DEFL.	OUTER	INNER	HT.	O.D.
SH	1-12	12	1.00	SILVER		3.19	1.75
SH	1-18	18	1.00	YELLOW		3.19	1.75
SH	1-30	30	1.00	PINK		3.19	1.75
SH	1-35	35	1.52	BLUE		3.19	1.75
SH	1-37	37	1.00	WHITE		3.19	1.75
SH	1-70	70	1.36	GREEN		3.19	1.75
SH	1-75	75	1.01	BLACK		3.19	1.75
SH	1-125	125	1.23	GRAY		3.19	1.75
SH	1-150	150	1.00	RED		3.19	1.75
SH	1-245	245	1.19	BROWN		3.19	1.75
SH	1-300	300	1.00	PURPLE		3.19	1.75
SH	1-370	370	0.96	ORANGE		3.19	1.75
SH	1-500	500	1.00	BEIGE		3.19	1.75
SH	1-600	600	1.02	CHROME		3.19	1.75
*SH	1-700	700	1.00	BEIGE	WHITE	3.19	1.75
*SH	1-805	805	1.02	CHROME	WHITE	3.19	1.75

Size & Quantity for Piping Connected to Pumps (At First 3 Points) to be Confirmed by Mechanical Contractor Prior to Release



SPECIFICATIONS:

- SPRING ELEMENTS AND BRACKETS ARE POWDER COATED.
- LOAD PLATES ARE BRIGHT ZINC PLATED.
- ISOLATION HANGERS HAVE A TYPICAL OVERLOAD OF 50%.
- ISOLATION HANGERS HAVE A MINIMUM Kx/Ky RATIO OF 1.0.
- SPRING ELEMENTS ARE SAFE AT SOLID LOADING.
- HANGER BRACKETS WILL CARRY (5) TIMES OVERLOAD WITHOUT FAILURE.
- HANGER BRACKETS WILL ALLOW 30° ROD MISALIGNMENT WITHOUT SHORT CIRCUITING, EXCEPT AS NOTED (*).
- "NO SHORT" STEP CAP.

KINETICS Noise Control®

VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION

KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

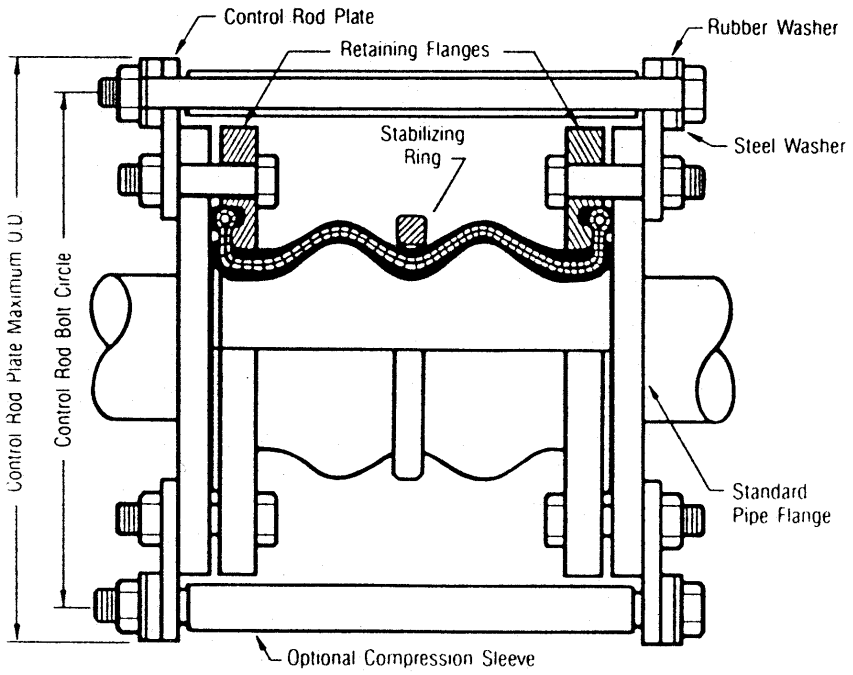
Model: SH-1-12/805

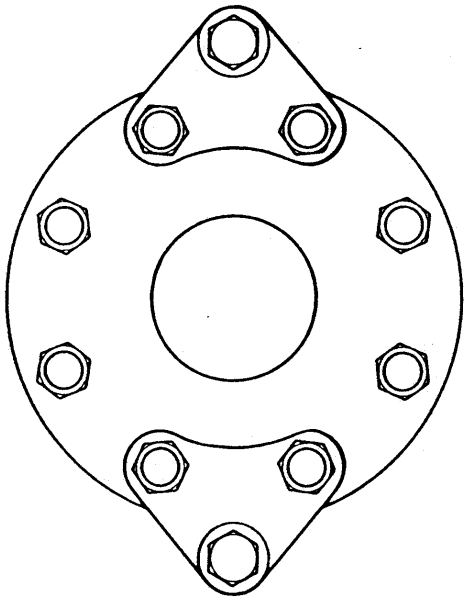
By: B. LIVELY
Date: 12/07/05
Revised: 11/07/22 / BB

Drawing No: S-03-36.11

Flexible Connector Selection Summary						
Equipment Type	Equipment Tag	Flexible Connector Type	Connection Type	Qty	Pipe Size	Model
VIL Pumps	PH-01/02/03/10/16	Twin-Sphere EPDM (C/W Control Rods)	Flange	10	2.5"	D-SAE250DA
VIL Pumps	PH-07/13	Twin-Sphere EPDM (C/W Control Rods)	Flange	4	3"	D-SAE300DA
VIL Pumps	PH-05/06/08/09/11/12/14/15	Twin-Sphere EPDM (C/W Control Rods)	Flange	16	4"	D-SAE600DA

Size and quantity of flexible connectors connected to pumps are to be confirmed by the mechanical contractor prior to release





QTY	MODEL NUMBER	NOMINAL SIZE I.D.		FACE TO FACE		ALLOWABLE MOVEMENTS							WEIGHT Includes Control units	
						AXIAL COMPRESSION		AXIAL EXTENSION		LATERAL DEFLECTION		ANGULAR DEFLECTION		
		INS.	mm	INS.	mm	INS	mm	INS	mm	INS	mm	DEGREES	LBS	KGs
	D-SAE200DA	2	51	7	178	2	51	1.188	30	1.75	45	45	16	7.3
	D-SAE250DA	2.5	64	7	178	2	51	1.188	30	1.75	45	43	20	9.1
	D-SAE300DA	3	76	7	178	2	51	1.188	30	1.75	45	38	22	10
	D-SAE400DA	4	102	9	229	2.25	57	1.375	35	1.562	40	34	27	12.3
	D-SAE500DA	5	127	9	229	2.25	57	1.375	35	1.562	40	29	31	14.1
	D-SAE600DA	6	152	9	229	2.25	57	1.375	35	1.562	40	25	37	16.8
	D-SAE800DA	8	203	13	330	2.5	64	1.375	35	1.375	35	19	59	26.8
	D-SAE1000DA	10	254	13	330	2.5	64	1.375	35	1.375	35	15	89	40.4
	D-SAE1200DA	12	305	13	330	2.5	64	1.375	35	1.375	35	13	116	52.6

TAG:

NOTES:

AT 200 DEGREES F. WORKING PRESSURE IS 180 PSIG

BILL OF MATERIAL		**DESIGN DATA**
CONTROL UNITS	CARBON STEEL – GALVANIZED	**ALL MOVEMENTS ARE NON-CONCURRENT**
ROOT RING	CARBON STEEL - GALVANIZED	MAXIMUM VACUUM 26" of HG / 88.14 KPa
FLANGE	CARBON STEEL - PLATED	**TEST TEMPERATURE: 70°F / 21°C**
REINFORCEMENT	HIGH TENSILE SYNTHETIC FABRIC	**TEST PRESSURE: 337 PSIG / 2325 KPaG**
TUBE	EPDM	**DESIGN TEMPERATURE: 190°F / 88°C**
COVER	EPDM	**DESIGN PRESSURE: 225 PSIG / 1550 KPaG**

CUSTOMER:

FLEX-PRESSION LTD.
2244 Drew Road, Units 4 & 5
Mississauga, Ontario L5S 1B1
Tel: (905) 671-2244, Fax: (905) 671-1857

PROJECT:

DRAWING TITLE:

STYLE DA – EE-CU DOUBLE ARCH EPDM
RUBER EXPANSION JOINT / FLEXIBLE CONNECTOR
WITH 150# STEEL FLOATING FLANGES
AND CONTROL UNITS

CUSTOMER P.O. #	DRAWING No.	SHEET	Rev.
	DA-EE-CU-4	**1 OF 1**	**0**

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:	**Project:**	22006063	**Tag:** P-19	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	KCI-A-1L-50	40	0.37	1.23	1.50	1.13	1.42	13.15	1.09	5.17
2	KCI-A-1L-50	40	0.37	1.23	1.50	1.13	1.42	13.15	1.09	5.17

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-01/02/03	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	119	0.01	N/A	0.75	0.74	N/A	N/A	N/A	26.33
2	RSP 4 IN x 4 IN	119	0.01	N/A	0.75	0.74	N/A	N/A	N/A	26.33
3	RSP 4 IN x 4 IN	119	0.01	N/A	0.75	0.74	N/A	N/A	N/A	26.33
4	RSP 4 IN x 4 IN	119	0.01	N/A	0.75	0.74	N/A	N/A	N/A	26.33

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-05/06	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN. 4 IN.	206	0.02	N/A	0.75	0.73	N/A	N/A	N/A	22.69
2	RSP 4 IN x 4 IN	206	0.02	N/A	0.75	0.73	N/A	N/A	N/A	20.00
3	RSP 4 IN. 4 IN.	206	0.02	N/A	0.75	0.73	N/A	N/A	N/A	22.69
4	RSP 4 IN x 4 IN	206	0.02	N/A	0.75	0.73	N/A	N/A	N/A	20.00

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:	**Project:**	22006063	**Tag:** PH-07	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	94	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.60
2	RSP 4 IN x 4 IN	94	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.60
3	RSP 4 IN x 4 IN	94	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.60
4	RSP 4 IN x 4 IN	94	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.60

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-08/09	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN. 4 IN.	237	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.14
2	RSP 4 IN. 4 IN.	237	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.14
3	RSP 4 IN. 4 IN.	237	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.14
4	RSP 4 IN x 4 IN	237	0.03	N/A	0.75	0.72	N/A	N/A	N/A	18.63

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-10	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN. 4 IN.	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	33.42
2	RSP 4 IN. 4 IN.	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	33.42
3	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45
4	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-11/12	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN. 4 IN.	205	0.02	N/A	0.75	0.73	N/A	N/A	N/A	22.71
2	RSP 4 IN. 4 IN.	205	0.02	N/A	0.75	0.73	N/A	N/A	N/A	22.71
3	RSP 4 IN. 4 IN.	205	0.02	N/A	0.75	0.73	N/A	N/A	N/A	22.71
4	RSP 4 IN x 4 IN	205	0.02	N/A	0.75	0.73	N/A	N/A	N/A	20.01

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-14/15	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	237	0.03	N/A	0.75	0.72	N/A	N/A	N/A	18.63
2	RSP 4 IN. 4 IN.	237	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.14
3	RSP 4 IN. 4 IN.	237	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.14
4	RSP 4 IN x 4 IN	237	0.03	N/A	0.75	0.72	N/A	N/A	N/A	18.63

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-16	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45
2	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45
3	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45
4	RSP 4 IN x 4 IN	95	0.01	N/A	0.75	0.74	N/A	N/A	N/A	29.45

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	PH-17/18	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	71	0.01	N/A	0.75	0.74	N/A	N/A	N/A	34.08
2	RSP 4 IN x 4 IN	71	0.01	N/A	0.75	0.74	N/A	N/A	N/A	34.08
3	RSP 4 IN x 4 IN	71	0.01	N/A	0.75	0.74	N/A	N/A	N/A	34.08
4	RSP 4 IN x 4 IN	71	0.01	N/A	0.75	0.74	N/A	N/A	N/A	34.08

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:	**Project:**	22006063	**Tag:** PH-22	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	25	< 0.01	N/A	0.75	0.75	N/A	N/A	N/A	57.33
2	RSP 4 IN x 4 IN	25	< 0.01	N/A	0.75	0.75	N/A	N/A	N/A	57.33
3	RSP 4 IN x 4 IN	25	< 0.01	N/A	0.75	0.75	N/A	N/A	N/A	57.33
4	RSP 4 IN. 4 IN.	25	< 0.01	N/A	0.75	0.75	N/A	N/A	N/A	65.06

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	ST-1/2	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 8 IN x 12 IN	5,920	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.13
2	RSP 8 IN x 12 IN	5,920	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.13
3	RSP 8 IN x 12 IN	5,920	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.13

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	EB-01	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 4 IN	510	0.12	N/A	0.75	0.63	N/A	N/A	N/A	8.98
2	RSP 2 IN x 4 IN	510	0.12	N/A	0.75	0.63	N/A	N/A	N/A	8.98
3	RSP 2 IN x 4 IN	510	0.12	N/A	0.75	0.63	N/A	N/A	N/A	8.98
4	RSP 2 IN x 4 IN	510	0.12	N/A	0.75	0.63	N/A	N/A	N/A	8.98

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.		
Rep:	HTS	**Contractor:**	Integral Group		**Date:**	04/18/2024	
PO #:		**Project:**	22006063	**Tag:**	ET-1/2	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 4 IN	956	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.27
2	RSP 4 IN x 4 IN	956	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.27
3	RSP 4 IN x 4 IN	956	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.27

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:	**Project:**	22006063	**Tag:** ET-3	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 4 IN	483	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.22
2	RSP 2 IN x 4 IN	483	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.22
3	RSP 2 IN x 4 IN	483	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.22

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.		
Rep:	HTS	**Contractor:**	Integral Group		**Date:**	04/18/2024	
PO #:		**Project:**	22006063	**Tag:**	CND-1	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 2 IN	43	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.86
2	RSP 2 IN x 2 IN	43	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.86
3	RSP 2 IN x 2 IN	43	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.86
4	RSP 2 IN x 2 IN	43	0.02	N/A	0.75	0.73	N/A	N/A	N/A	21.86

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	CND-2	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 2 IN	20	0.01	N/A	0.75	0.74	N/A	N/A	N/A	32.46
2	RSP 2 IN x 2 IN	20	0.01	N/A	0.75	0.74	N/A	N/A	N/A	32.46
3	RSP 2 IN x 2 IN	20	0.01	N/A	0.75	0.74	N/A	N/A	N/A	32.46
4	RSP 2 IN x 2 IN	20	0.01	N/A	0.75	0.74	N/A	N/A	N/A	32.46

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:	**Project:**	22006063	**Tag:** UH-1	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	SH-1-125	86	0.85	1.75	3.19	2.34	1.25	0.99	0.75	3.40
2	SH-1-125	86	0.85	1.75	3.19	2.34	1.25	0.99	0.75	3.40

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	WSHP-01	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RDB-375	325	0.43	N/A	1.75	1.32	N/A	N/A	N/A	4.75
2	RDB-375	325	0.43	N/A	1.75	1.32	N/A	N/A	N/A	4.75
3	RDB-375	325	0.43	N/A	1.75	1.32	N/A	N/A	N/A	4.75
4	RDB-375	325	0.43	N/A	1.75	1.32	N/A	N/A	N/A	4.75

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	WSHP-02A	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RDC-1100	601	0.27	N/A	2.50	2.23	N/A	N/A	N/A	5.99
2	RDC-1100	601	0.27	N/A	2.50	2.23	N/A	N/A	N/A	5.99
3	RDC-1100	601	0.27	N/A	2.50	2.23	N/A	N/A	N/A	5.99
4	RDC-1100	601	0.27	N/A	2.50	2.23	N/A	N/A	N/A	5.99

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	WSHP-02B	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RDD-2250	1,512	0.34	N/A	2.75	2.41	N/A	N/A	N/A	5.40
2	RDC-1100	952	0.43	N/A	2.50	2.07	N/A	N/A	N/A	4.76
3	RDD-2250	1,232	0.27	N/A	2.75	2.48	N/A	N/A	N/A	5.98
4	RDD-2250	1,904	0.42	N/A	2.75	2.33	N/A	N/A	N/A	4.81

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.		
Rep:	HTS	**Contractor:**	Integral Group		**Date:**	04/18/2024	
PO #:		**Project:**	22006063	**Tag:**	AHU-A-2	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 4 IN	348	0.08	N/A	0.75	0.67	N/A	N/A	N/A	10.87
2	RSP 2 IN x 4 IN	348	0.08	N/A	0.75	0.67	N/A	N/A	N/A	10.87
3	RSP 2 IN x 6 IN	554	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.54
4	RSP 2 IN x 6 IN	554	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.54
5	RSP 2 IN x 4 IN	304	0.07	N/A	0.75	0.68	N/A	N/A	N/A	11.63
6	RSP 2 IN x 4 IN	304	0.07	N/A	0.75	0.68	N/A	N/A	N/A	11.63
7	RSP 2 IN x 6 IN	622	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.95
8	RSP 2 IN x 6 IN	622	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.95
9	RSP 4 IN x 4 IN	996	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.08
10	RSP 4 IN x 4 IN	996	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.08
11	RSP 2 IN x 4 IN	471	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.34
12	RSP 2 IN x 4 IN	471	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.34

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	AHU-A-3	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 4 IN	501	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.06
2	RSP 2 IN x 4 IN	501	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.06
3	RSP 4 IN x 4 IN	806	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.10
4	RSP 4 IN x 4 IN	806	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.10
5	RSP 2 IN x 4 IN	448	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.58
6	RSP 2 IN x 4 IN	448	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.58
7	RSP 4 IN x 6 IN	1,085	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.66
8	RSP 4 IN x 6 IN	1,085	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.66
9	RSP 6 IN x 6 IN	1,639	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.62
10	RSP 6 IN x 6 IN	1,639	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.62
11	RSP 2 IN x 6 IN	697	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.41
12	RSP 2 IN x 6 IN	697	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.41

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	AHU-A-4	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 2 IN	229	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.47
2	RSP 2 IN x 2 IN	229	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.47
3	RSP 2 IN x 2 IN	229	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.47
4	RSP 2 IN x 2 IN	229	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.47
5	RSP 2 IN x 4 IN	433	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.74
6	RSP 2 IN x 4 IN	433	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.74
7	RSP 2 IN x 2 IN	204	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.03
8	RSP 2 IN x 2 IN	204	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.03
9	RSP 2 IN x 4 IN	525	0.13	N/A	0.75	0.62	N/A	N/A	N/A	8.85
10	RSP 2 IN x 4 IN	525	0.13	N/A	0.75	0.62	N/A	N/A	N/A	8.85
11	RSP 2 IN x 2 IN	320	0.15	N/A	0.75	0.60	N/A	N/A	N/A	8.01
12	RSP 2 IN x 2 IN	320	0.15	N/A	0.75	0.60	N/A	N/A	N/A	8.01
13	RSP 2 IN x 2 IN	320	0.15	N/A	0.75	0.60	N/A	N/A	N/A	8.01
14	RSP 2 IN x 2 IN	320	0.15	N/A	0.75	0.60	N/A	N/A	N/A	8.01

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	AHU-A-8	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 2 IN x 4 IN	437	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.70
2	RSP 2 IN x 4 IN	437	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.70
3	RSP 2 IN x 6 IN	704	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.36
4	RSP 2 IN x 6 IN	704	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.36
5	RSP 2 IN x 4 IN	408	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.04
6	RSP 2 IN x 4 IN	408	0.10	N/A	0.75	0.65	N/A	N/A	N/A	10.04
7	RSP 4 IN x 4 IN	850	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.83
8	RSP 4 IN x 4 IN	850	0.10	N/A	0.75	0.65	N/A	N/A	N/A	9.83
9	RSP 4 IN x 6 IN	1,117	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.50
10	RSP 4 IN x 6 IN	1,117	0.09	N/A	0.75	0.66	N/A	N/A	N/A	10.50
11	RSP 4 IN x 4 IN	915	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.48
12	RSP 4 IN x 4 IN	915	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.48
13	RSP 2 IN x 4 IN	507	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.00
14	RSP 2 IN x 4 IN	507	0.12	N/A	0.75	0.63	N/A	N/A	N/A	9.00

Deflection Curve

Project:	Chris Gibson Recreation Centre			**Customer:**	Con-Sult Mechanical Inc.
Rep:	HTS	**Contractor:**	Integral Group	**Date:**	04/18/2024
PO #:		**Project:**	22006063	**Tag:**	BT-1/2	**Units:**	English

SPRING CALCULATIONS

Isol Pt. #	Model Isolator	Actual Weight	Coil Defl.	Coil OD	Coil FH	Oper Height	Solid Height	Actual KX/KY	OD/Vert Ratio	Actual Nat Freq. (HZ)
1	RSP 4 IN x 10 IN	2,279	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.49
2	RSP 4 IN x 10 IN	2,279	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.49
3	RSP 4 IN x 10 IN	2,279	0.11	N/A	0.75	0.64	N/A	N/A	N/A	9.49

INSTALLATION INSTRUCTIONS FOR SH HANGER

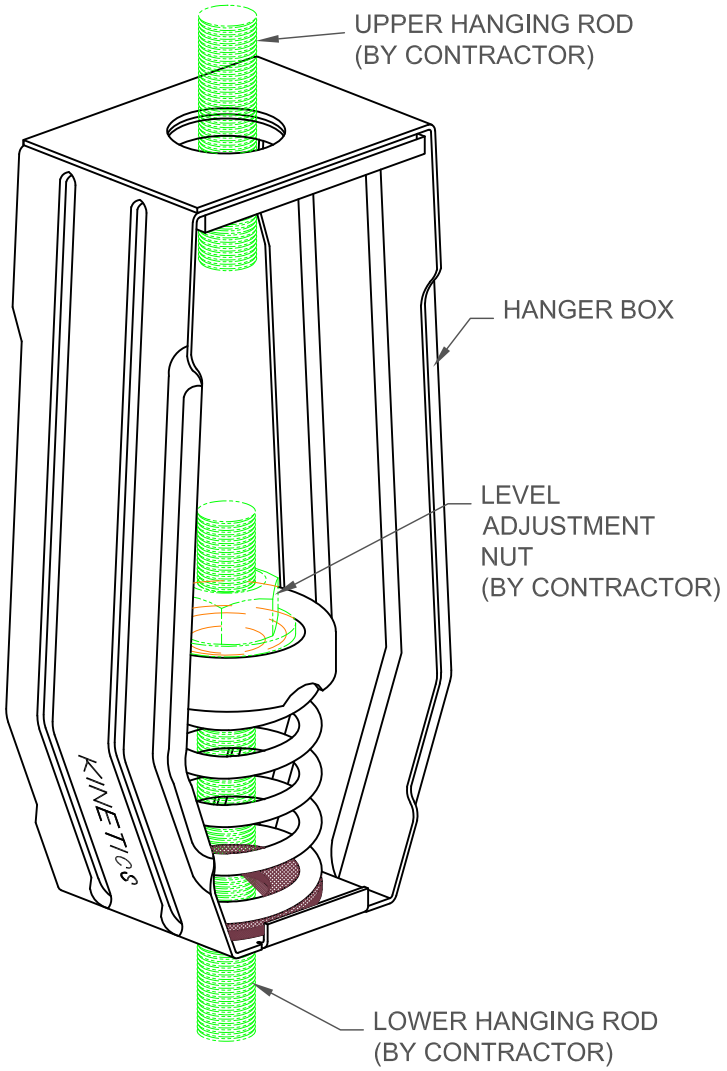
1) LOCATE EACH HANGER INTO POSITION BASED ON SUBMITTAL DRAWING USING COLOR CODED SPRINGS AS IDENTIFICATION.

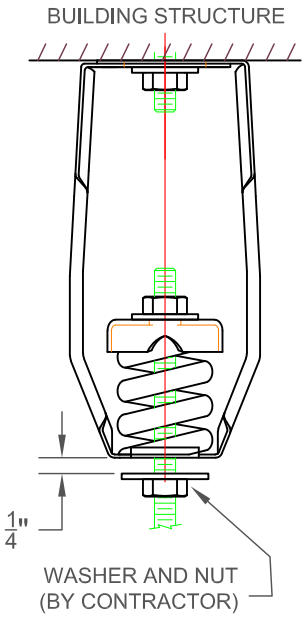
2) ATTACH HANGER BOX TO UPPER HANGING ROD AS SHOWN IN SKETCH.

3) ATTACH EQUIPMENT TO LOWER HANGING ROD AS SHOWN IN SKETCH.

4) IF NECESSARY, ADJUST EQUIPMENT LEVEL BY THE LEVEL ADJUSTMENT NUT ON THE TOP OF THE COIL SPRING AS SHOWN IN THE SKETCH.

5) CHECK TO ENSURE ADEQUATE ALIGNMENT BETWEEN THE LARGE HOLE IN THE HANGER BOX (AT THE BASE OF THE SPRING) AND THE LOWER HANGING ROD.





FOR SEISMIC APPLICATIONS

A) INCLUDE AN ADDITIONAL WASHER AND NUT ON THE LOWER HANGER ROD BELOW THE HANGER BOX.

B) THE WASHER O.D. MUST BE LARGER THAN THE ROD HOLE IN THE BOTTOM OF THE HANGER BOX.

C) WHEN THE SYSTEM IS AT OPERATING WEIGHT, ADJUST THE LOWER NUT UNTIL THE WASHER IS $\frac{1}{4}$" OFF THE BOTTOM OF THE HANGER BOX.

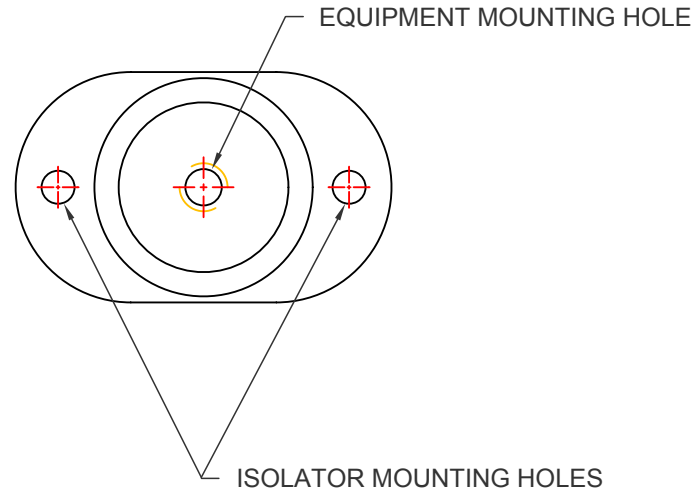
KINETICS Noise Control

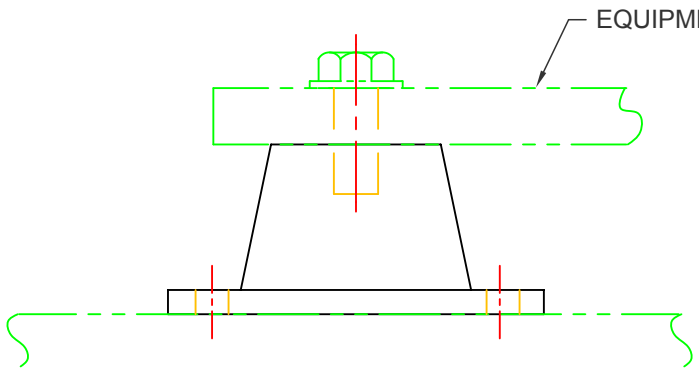
VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION

By:	DCB
Date:	02/15/11
Revised:	09/15/16 / BB

Drawing No: INS-03.36-1A

KINETICS NOISE CONTROL, INC., 6300 IRELAN PL, DUBLIN, OH 43017 USA - Ph: 614 889-0480, Fax: 614 889-0540, www.kineticsnoise.com





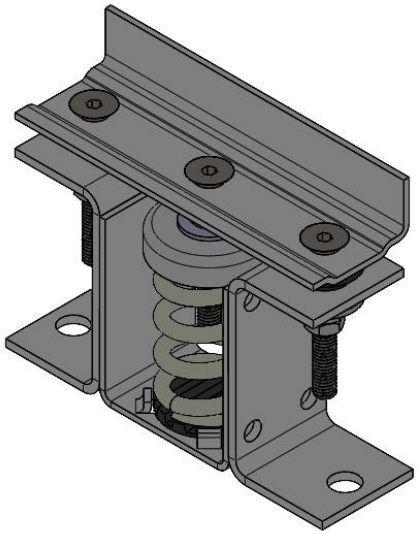
INSTALLATION INSTRUCTIONS

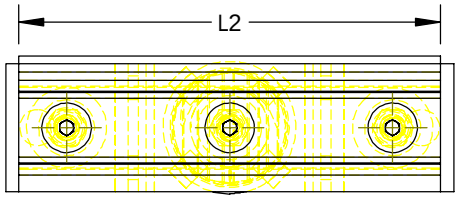
1. JACK UP EQUIPMENT TO BE ISOLATED HIGH ENOUGH TO PLACE RD MOUNT UNDER EQUIPMENT MOUNTING BRACKETS.

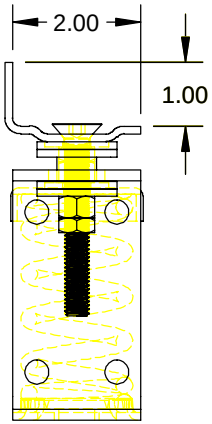
2. ATTACH RD MOUNT TO EQUIPMENT MOUNTING BRACKET WITH BOLT AND WASHER (NOT INCLUDED). A NUT IS NOT NRCESSARY AS THE EQUIPMENT MOUNTING HOLE IS THREADED. ROTATE RD MOUNT AS NECESSARY TO ENSURE ISOLATOR MOUNTING HOLES ARE ACCESSABLE AFTER MOUNTING TO EQUIPMENT.

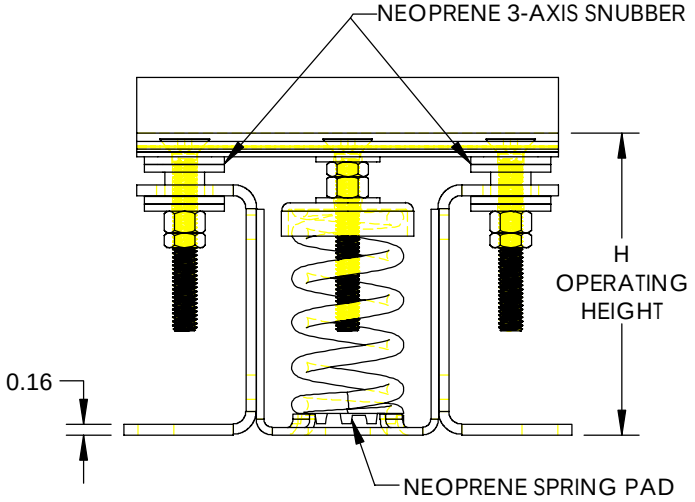
KINETICS Noise Control	TITLE	LAST DATE REVISED	REVISED BY	DRAWING NO.
	MODEL RD INSTALLATION INSTRUCTIONS	12/16/09	DCB	INS-20.401-0A

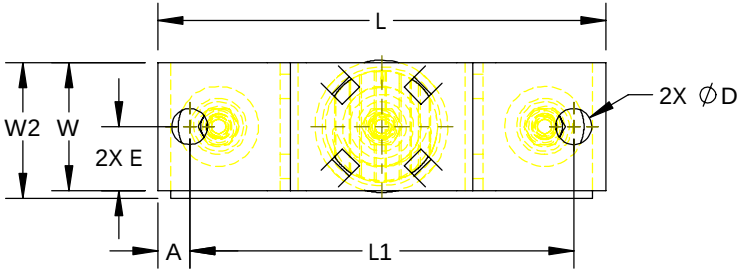
USE WITH SHEETS 2 AND 3.











SPECIFICATIONS:

- VERTICALLY AND LATERALLY RESTRAINED SPPRING ISOLATOR WITH CONSTANT FREE AND OPERATING HEIGHT AND REPLACEABLE NEOPRENE SNUBBING ELEMENTS.
- 0.125 INCHES NOMINAL CLEARANCE AT SNUBBING ELEMENTS.
- MINIMUM OVERLOAD OF 50%
- MINIMUM Kx/Ky RATIO OF 1.0.
- ALL ELEMENTS SAFE AT SOLID LOADING.
- POWDER COATED SPRING COILS. HOT DIP GALVANIZED HOUSING AND MOUNT BRACKET.

KINETICS Noise Control	TITLE	REVISION DATE	REVISED BY	DRAWING NO.
	KCI-A-1 SPRING ISOLATOR	09/21/22	BB	S-01.37-110
				WEIGHT: 3.44 Lbs SHEET 1 OF 3