BC-2200



BC-2200 Fans

- Capacities to 60,000 cfm (101,940 m³/hr)
 Static pressure to 65 in.wg. (16,175 Pa)
- Temperatures to 800°F (427°C)

*Additional performance and temperature capabilities are available. Consult The New York Blower Company to discuss application requirements.





THE NEW YORK **BLOWER COMPANY**

800-208-7918 | nyb.com

FAN INFORMATION



Size 44 Arrangement 8 BC-2200 Fan

HIGH-EFFICIENCY BACKWARD CURVED BC FANS

The BC-2200 is ideally suited for a wide range of high-pressure, industrial-process applications including: combustion air, solvent recovery, thermal oxidation, fluidizing, combustion, and air recirculation.

DESIGN FEATURES

BC-2200:

- Capacities to 60,000 cfm* (101,940 m3/hr)
- Pressures to 65 in.wg* (16,175 Pa)
- Temperatures to 800°F (427°C)
- Available in Arrangements 1 and 8 (consult **nyb** for 3, 4, 7 and other custom configurations)
- Efficiencies beyond 78%.
- Fourteen sizes: 24 through 73" (600mm-1,850mm) wheel diameters. (for additional sizes/requirements, consult nyb).
- · Choice of direct-drive or belt-drive arrangements.
- Non-overloading horsepower characteristics...brake horsepower levels at a point that allows economical motor selection that will not overload motor if system pressure changes.
- Integral-base construction eliminates the need for field erection of independent bearing pedestals and sole plates.
- Complete factory-assembled units are test run and balanced prior to shipment.
- Standard design includes "back pressure vanes" which reduce thrust loads and shaft hole opening leakage
- Available in clockwise and counterclockwise rotations in any of seven standard discharge positions (user specified discharge positions are available).
- Standard design includes "back pressure vanes" which reduce thrust loads and shaft hole opening leakage

*Additional performance and temperature capabilities are available. Consult The New York Blower Company to discuss application requirements

CONSTRUCTION FEATURES

- Heavy-gauge steel housing-rigidly supported with structural bracing
- All-welded construction provides strength and durability for extended service life in a wide range of applications.
- **Shafting**-turned, ground, and polished shafting is straightened to close tolerance to minimize "run out" and ensure smooth operation. This, coupled with proper shaft-to-bearing fit, maximizes bearing operating life.
- Finish-industrial grade two-coat paint system consisting of one prime coat and one finish coat of medium-green enamel.
- **Bearings**-are selected to provide long service life through the entire operating range of the fan.
- **Precision balancing**-all wheels are statically and dynamically balanced before final assembly. After assembly, all fans are balanced on a rigid test pad at the specified running speed.
- · Lifting eyes-standard on all sizes.
- Flanged inlet and outlet-standard—on all sizes...furnished with bolt holes for ease of installation.
- **Shaft seal**-ceramic-felt shaft seals are standard on all Arr. 1 and 8 fans... multiple double chaffed seal elements encased between metal backing plate and retainer.
- **Flanges**–Fans come standard with flanged inlets and outlets. Outlet flange angles welded flush with fan outlet and provided with holes...inlet flange ring welded to inlet collar and provided with holes...companion flange with matching hole pattern also available.

Copyright © 2019 by The New York Blower

BELT-DRIVE ARRANGEMENT

APPLICATION CONSIDERATIONS

As compared to direct-drive fan arrangements, belt-drive fans, where the fan wheel is supported by a shaft and bearings and driven by belts, allow for a wider range of sizes and applications, and offer a greater selection of accessories and modifications. However, relative to direct-drive fans, they have a larger footprint for a given fan size and have a higher first cost. Without additional controls, belt-drive fan performance can be easily altered in the field within the limitations of the motor horsepower and fan's maximum design speed by changing sheaves and belts. Because of the numerous choices available between belt-drive and direct-drive arrangements, it is recommended that you consult your New York Blower representative for selection guidelines.

AMCA STANDARD MOTOR POSITIONS

Motor positions are independent of fan rotation and discharge positions and are determined by viewing fan from the drive end.

Arr 1

Overhung wheel keeps bearings out of airstream. Motor mounts independently from fan. Greatest flexibility.

- Sizes 24" 73".
- Max. temp: 300°F.
- Heat fan max. temp: 800°F using carbon steel construction of the gastream. Higher temperatures achievable using alternate alloys.



DIRECT-DRIVE ARRANGEMENT

APPLICATION CONSIDERATIONS

As compared to belt-drive fan arrangements, direct-drive Arrangement 8 fans offer much of the flexibility of belt-drive fans and are even preferred in systems that require large volumes of air and are over 250-300 HP due to belt pull and other drive limitations. Since v-belts need to be maintained, direct drive fans often require less maintenance than their belt drive counterpart.

A major objection to direct-drive arrangements in the past was the inability to adjust fan speed if system requirements changed. With the advent of variable frequency drives (VFDs) the speed, and therefore performance, of direct-drive fans can now be adjusted to meet varying requirements. Given the variety of operating speeds available, choices in wheel width, and its effect on wheel safe speed limits, the only cost-effective method for selecting today's direct-drive fans is using New York Blower's online fan selection program, Fan To Size, found at www.nyb.com.



Arr 8

Traditional arrangement utilizing fan pedestal and foot-mounted motor. Seven discharge positions are available to meet requirements.

- Sizes 24" 73".
- Max. temp: 300°F.
- Heat fan max. temp: 800°F using carbon steel construction of the gastream. Higher temperatures achievable using alternate alloys.





BC-2200 WHEEL DESIGN

Based on the proven single thickness backward curved wheel, the New York Blower Company has incorporated the latest state of the art design tools including finite element design, computational fluid dynamics, laboratory testing and alloy technology to create a high efficiency fan that is both cost effective and capable of handling mildly contaminated gas streams.

Wheel Design-Rugged, all-welded wheels designed for clean air applications but capable of handling light particulate-laden or moist

airstreams. Air-handling efficiencies of BC-2200 are higher than common radial fans and, therefore, offer lower noise levels

Efficiency-Mechanical efficiency to 80%

Sound-Because of superior efficiency, BC -2200 wheels generate the lowest sound levels over a wide range of performance.

Construction-Available in all-welded steel and also optional aluminum and other special alloys.

ACCESSORIES

CLEANOUT DOOR

Two types of gasketed doors are available (standard door location is 3 o'clock or 9 o'clock opposite the fan discharge, alternate locations are available).

- Flush Bolted: closely spaced studs keep door securely sealed
- Raised Bolted: allows for insulation when desired, door raised 2" from the fan housing. (consult nyb for alternate raised door heights).

DRAIN

1.5 inch [npt] tank flange located at lowest point in housing scroll.

EVASE

Aerodynamically designed evase provides attached flow for maximum static pressure regain and reduced outlet velocities.

INLET BOX

Minimizes entry losses normally associated with 90° turns at or near fan inlet...also available with parallel-blade damper for efficient volume control...refer to separate Catalog Sheet.

EXTERNAL INLET VANE DAMPER

Damper provides pre-spun air effect to reduce fan performance efficiently...not recommended for use with inlet box...maximum temperature: 800°F using carbon steel construction of the gasstream. Higher temperatures achievable using alternate alloys.

OUTLET DAMPER

Damper provides pre-spun air effect to reduce fan performance efficiently...not recommended for use with inlet box...maximum temperature: 800°F using carbon steel construction of the gasstream. Higher temperatures achievable using alternate alloys.

COMPANION FLANGES

Designed to fit flush with fan inlet and outlet flanges, provided with a matching hole pattern.

SAFETY EQUIPMENT

Belt guards, shaft and bearing guards, coupling guards, inlet guards, and outlet guards are available.

IOT (INTERNET OF THINGS) SENSOR

Intelligent transmitter nodes send information both on a scheduled periodic basis and when important changes are detected, ensuring that potential fan and system upset conditions are properly identified and managed.

OTHER ACCESSORIES

Also available from **nyb** are drive components such as motors, couplings, and v-belt drives as well as a variety of preventivemaintenance products including vibration detectors, bearingtemperature detectors, and zero-speed switches.



Arrangment 8 Fan with grid type coupling, vibration sensors, speed switch and motor sensor and Hazard PRO monitoring system

MODIFICATIONS

nyb's catalog fans can be configured for specific industry or customer specifications for the petro-chemical, power, steel, food, marine, and nuclear industry. Some of these specifications include API-560, API-673, AG-1 and AAR M-1003. **nyb** will manufacture our products using metric dimensions and locally available accessories such as bearings, couplings, etc. to meet global or regional standards or requirements.

HANDLING CORROSIVES

Protective coatings and special alloys are available to combat corrosion problems.

Special coatings [up to 12 dry film mil thickness]-special paints and spray coatings are available under a variety of trade names. nyb works with experienced coating applicators who can apply coatings to meet a wide range of requirements.

Alternate material construction–Fans can be constructed of aluminum and various stainless steels/special alloys.

HEAT-FAN CONSTRUCTION

Arrangement 1 and 8 fans can be constructed for elevated temperature operation with the addition of shaft cooler and guard and high-temperature paint for 800°F using carbon steel construction of the gasstream (higher temperatures achievable using alternate alloys... (consult **nyb**). Note that the maximum safe wheel speeds decrease as airstream temperatures increase...see Chart II on page 7.

SPARK-RESISTANT CONSTRUCTION [SRC]

Fan is to be so constructed such that no bearings, drive components, or electrical apparatus are located in the airstream...the user must electrically ground all fan and system components. Refer to Engineering Letter 15 for the full meaning and limits of spark-resistant construction.

AMCA A [AIRSTREAM] SRC

To include all airstream parts constructed of a spark-resistant alloy...maximum temperature: 200°F.

AMCA B [WHEEL] SRC

To include the fan wheel constructed of a sparkresistant alloy and a buffer plate around the housing shaft-hole opening... maximum temperature: 200° F.

AMCA C [BUFFER] SRC

To include a spark-resistant alloy buffer affixed to the housing interior adjacent to the wheel backplate, a spark-resistant alloy inlet cone, and a buffer plate around the housing shaft-hole opening...maximum temperature: 650°F.

CUSTOM PRODUCTS AND TECHNICAL SUPPORT

nyb design engineers can find solutions to a wide variety of applications with our custom fans. Our heavy industrial manufacturing facilities can fabricate fans that exceed standard operating conditions. Contact your local sales representative for more information.

SPLIT HOUSING

Provides easy access for wheel and shaft removal...Sizes 24 and larger available with split housings...Standard on size 73 are welded to housing to permit bolting sections together so inlet and outlet connections do not have to be removed during maintenance (consult nyb for limitations with certain discharge positions).

2-inch long weld-studs located on 12-inch centers on all surfaces of housing exterior...recommended for use with field-installed insulation...studs are normally mild steel; stainless steel available on request.

TYPE A Bottom Horizontal Up Blast Down Blast

Horizontal split allows removal of top section without disturbing inlet connection...outlet connection must be broken on Up Blast fans only.

TYPE B Top Horizontal Top Angular Down Bottom Angular Up Top Angular Up



Split allows removal of pie-shaped section without disturbing inlet or outlet connections.

NARROW-WIDTH AND SPECIAL DIAMETER CONSTRUCTION

Wheel and housing widths and wheel diameters can be adjusted to meet volume and pressure requirements at most efficient operating point.

SAFETY EQUIPMENT

Safety accessories are available from **nyb**, but selection of the appropriate devices is the responsibility of the systemdesigner who is familiar with the particular installation, or application, and can provide guards for all exposed moving parts as well as protection from access to high-velocity airstreams. Neither **nyb** nor its sales representatives is in a position to make such a determination. Users and/or installers should read "Recommended Safety Practices for Air Moving Devices" as published by the Air Movement and Control Association International, Arlington Heights, Illinois.

MATERIAL SPECIFIATIONS

U.S. standard sheet gauge to 7 gauge. Dimensions in inches. Weights in pounds. WR² in lb.-ft.².

BC-2200 Fans										
Model		Wheel		Shaft	Bearing	Bare fan weight				
	Material	Weight	WR ²	Diameter	Туре	Arr. 1	Arr. 8			
24	50*	52.3	11.8	2 ³ /16	300A	1398	OA∙			
27	50*	88.2	25.7	27/16	300A	1573	ΟA·			
30	50*	108	39.1	27/16	300A	1748	OA∙			
33	50*	140	66.6	2 ¹¹ / ₁₆ 300A		2001	OA∙			
36	50*	170	89.5	2 ¹⁵ /16	300A	2150	OA∙			
40	50*	283	199	37⁄16	300A	2399	ОA•			
44	50*	331	274	37⁄16	300A	2600	ОA•			
49	50*	424	454	315/16	300A	2949	OA∙			
54	50*	510	629	315/16	300A	3199	ОA•			
60	50*	624	952	47/16	ISAF	3548	OA∙			
66	50*	1038	1964	4 ¹⁵ ⁄16	ISAF	3898	OA∙			
73	50*	1287	3040	51/16	ISAF	4348	ОA•			



* minimum yield strength KSI

On Application





DRAWINGS ON DEMAND

Drawings on Demand can generate a fan drawing package specifically tailored to the user's application requirements. Included are the abilities to select the fan's rotation, discharge position, accessories, motor frame size and u-base. Once selected, a complete drawing package will be available to print, save, or view.

PROGRAM BENEFITS

- No software to download.
- Upload selection from Fan-to-Size to quickly access drawings.
- Create drawings for older files.
- · Choose from a wide selection of accessories.
- · Option to add customer information to drawings.
- Files types are DWG, PDF, STP (To-Scale only).
- · Can add option to include Installation & Maintenance manual.

GENERAL

Due to the nature of BC-2200 Fans and the applications in which they are used, only experienced engineers and systems designers should select BC-2200 Fans. It is recommended that selection be made using New York Blower's Electronic Catalog software and that a New York Blower sales representative be consulted for assistance in optimizing the selection.

EVASE

A determination must be made as to whether or not the system discharge duct configuration will allow the use of an energysaving evase. Depending upon the specific fan size and point of operation, an evase can significantly increase fan efficiency. Performance curves and specific performance data are available by using the Electronic Catalog.

CORRECTION FACTORS

Fan performance is based on actual cubic feet per minute [ACFM] at the fan inlet at standard density [.075 lbs./ft.³] and static pressure at the fan outlet. Static pressure capabilities are shown in inches water gauge ["wg].

Air-density corrections are necessary for proper selection when air density varies from the standard .075 lbs./ft.³ at 70°F. at sea level. This also occurs when negative static pressure exists [rarefication] on the inlet side of the fan. Multiply the required static pressure at operating conditions by the appropriate factors in Charts I, II, and III to obtain the corrected static pressure for standard conditions. Pressure and BHP will be reduced at conditions by the inverse of these factors. Multiply one factor by the other if temperature, altitude, and rarefication are nonstandard. For example: if the installation is located at an altitude of 4000 feet, the gas temperature is 300°F. and the inlet pressure is -40″wg, the correction factor is $1.84 [1.16 \times 1.43 \times 1.11]$.

FAN ARRANGEMENT

The choice of a fan arrangement must be made to determine specific fan capabilities. Space availability, airstream temperature, maintenance, control methods, performance requirements, and past practice must all be considered in the selection of fan arrangement. See page 3 for further information on arrangements.

HEAT FANS

Fans handling hot airstreams must be kept in operation after system shutdown, until the airstream cools below 200°F. to prevent damage to the fan. The fan wheel or shaft might otherwise distort due to "heat-soaking". The shaft cooler on heat fans is only effective while rotating. Contact nyb when the application involves temperature changes greater than 20°F. per minute.

Charts V and VI lists the speed limits by fan arrangement.

Alt.	Factor							
0	1.00							
500	1.02							
1000	1.04							
1500	1.06							
2000	1.08							
2500	1.10							
3000	1.12							
3500	1.14							
4000	1.16							
4500	1.18							
5000	1.20							
5500	1.23							
6000	1.25							
7000	1.30							
8000	1.35							
9000	1.40							
10000	1.45							

CHART II Temperature Corrections

Factor

87

.91

.94

.98

1.00

1.02

1 06

1.09

1.13

1.17

1 21

1.25

1.43

1.62

1.81

2.00

2.28

2 38

Temp. °F.

0

20

40

60

70

80

100

120

140

160

180

200

300

400

500

600

750

800

Mo

2

2

3

3

3

4

2

F

F

F

7

Rarefication Corrections

CHART III

00/100/13								
Neg. Inlet pressure "wg	Factor							
15	1.04							
20	1.05							
25	1.07							
30	1.08							
35	1.09							
40	1.11							
45	1.12							
50	1.14							
55	1.16							
60	1.17							
65	1.19							
70	1.21							
75	1.23							
80	1.25							
85	1.26							

CHART IV

Temperature Derates for Standard BC

Wheels

Temp. °F.	Factor
-50	1.00
70	1.00
80	1.00
120	0.98
200	0.94
300	0.89
400	0.86
500	0.82
600	0.79
700	0.76
800	0.59

CHART V

Maximum Wheel Safe Speeds [RPM] at 100% Width

del	Speed	
24	4720	
27	4200	
80	3780	
33	3300	
86	2149	
0	2750	
4	2540	
9	2240	
54	2060	
60	1628	
66	1690	
'3	1520	

CHART VI

Unit Operating Speeds [RPM]

Size	Arr.1	Arr.8
24	4975	4975
27	4427	4427
30	3984	3984
33	3478	3478
36	2149	2149
40	2899	2899
44	2677	2677
49	2361	2361
54	2171	2171
60	1628	1628
66	1781	1781
73	1602	1602

IMPERIAL CAPACITY CURVES

Performance is shown according to sizes for quick reference. Brake horsepower increments are identified on each curve. 1. Ratings are based on standard 70°F. air at a density of 0.075 pounds per cubic foot. See page 7 for density correction factors.

2. Performance shown is for BC-2200 fan including evase with outlet ducts, and with or without inlet ducts.

3. For a given selection, check the required fan speed at the maximum operating temperature against the maximum safe speeds



150 100

50

0

70,000

10

0

0

10,000

20,000

30,000

40,000

Actual Volume Flow Rate (CFM)

50,000

60,000

METRIC CAPACITY CURVES

Performance is shown according to sizes for quick reference. Brake horsepower increments are identified on each curve. 1. Ratings are based on standard 20°C. air at a density of 1.20 kilogram per cubic meter. See page 7 for density correction factors.

2. Performance shown is for BC-2200 fan with outlet duct, and with or without inlet ducts.

3. For a given selection, check the required fan speed at the maximum operating temperature against the maximum safe speeds



DRAWINGS AND DIMENSIONS

Dimension should not be used for construction unless certified.





2. Base bars form flanged outlet on Down Blast.

M, D, and DD are outside housing dimensions. J is from housing side over inlet. L is inside diameter.





Sizes 24-73

Clockwise-angular discharges at 45°

Counterclockwise-angular discharges at 45°

ARRANGEMENTS 1 AND 8

SIZE				Α			В		6	D	F	G		
SIZE	TH	TAD	BH	BAU	UB	TAU	DB	*	TAD		U		G	-
24	26.00	24.00	35.00	33.00	30.00	28.00	22.00	19.27	19.27	23.83	19.32	29.64	19.83	11.02
27	28.00	26.00	39.00	37.00	33.00	30.00	24.00	21.30	21.30	26.79	21.69	33.32	22.29	12.39
30	31.00	28.00	43.00	40.00	36.00	33.00	26.00	23.33	23.33	29.75	24.06	37.00	24.74	13.77
33	34.00	31.00	48.00	45.00	40.00	37.00	28.00	26.27	26.27	34.02	27.49	42.32	28.30	15.76
36	36.00	33.00	51.00	48.00	42.00	39.00	30.00	28.01	28.01	36.54	29.50	45.46	30.39	16.93
40	40.00	36.00	57.00	53.00	47.00	43.00	33.00	30.90	30.90	40.75	32.88	50.70	33.89	18.90
44	43.00	39.00	61.00	57.00	50.00	46.00	35.00	33.24	33.24	44.15	35.60	54.93	36.71	20.48
49	47.00	43.00	68.00	64.00	56.00	52.00	39.00	37.31	37.31	50.06	40.33	62.30	41.62	23.23
54	51.00	46.00	73.00	68.00	60.00	56.00	42.00	40.21	40.21	54.27	43.71	67.54	45.12	25.2
60	56.00	51.00	81.00	75.00	66.00	61.00	46.00	44.27	44.27	60.19	48.45	74.91	50.03	27.95
66	61.00	55.00	88.00	82.00	72.00	66.00	50.00	48.34	48.34	66.10	53.18	82.27	54.94	30.70
73	67.00	61.00	98.00	91.00	80.00	73.00	55.00	53.57	53.57	73.71	59.28	91.74	61.26	34.25

NA – Not available. * For TH, BH, UB, BAU and TAU discharges. For DB discharge, use A

		а		b		Н		к		N			
SIZE	M		BAU/ TAU	TAD	с	d	Arr. 1	Arr. 8	J	Arr. 1	Arr. 8	Arr. 1	Base holes
24	7.06	22.06	33.67	33.67	26.67	18.09	32.68	32.68*	3.38	8	8	14.25	0.75
27	7.89	24.82	37.87	37.87	30.00	20.35	33.52	33.52*	3.38	8	8	14.25	0.75
30	8.73	27.58	42.08	42.08	33.34	22.61	33.60	33.60*	3.38	8	8	13.50	0.75
33	9.94	31.57	48.17	48.17	38.16	25.88	37.56	37.56*	3.38	8	8	16.25	0.75
36	10.65	33.91	51.75	51.75	41.00	27.81	38.77	38.77*	3.38	8	8	16.75	0.75
40	11.96	37.84	57.75	57.75	45.75	31.03	41.21	41.21*	3.50	8	8	17.75	0.75
44	12.92	41.01	62.58	62.58	49.58	33.63	42.67	42.67*	3.50	8	8	18.25	0.75
49	14.59	46.53	71.00	71.00	56.25	38.15	45.09	45.09*	3.50	8	8	19.00	0.75
54	15 79	50.46	77.00	77.00	61.00	41.38	46.79	46.79*	3.50	8	8	19.50	0.75
60	17.46	55.97	85.42	85.42	67.67	45.90	50.46	50.46*	3.50	8	8	21.50	0.75
66	19.13	61.49	93.83	93.83	74.33	50.42	52.88	52.88*	3.50	8	8	22.25	0.75
73	21.28	68.59	104.67	104.67	82.92	56.24	58.78	58.78*	3.50	8	8	26.00	0.88

Dimensions are in inches.

† Dimensions will vary with narrow-width construction.

*Overall length of the fan assembly will approxiamtely be "H" plus the overall length of the motor.

PRODUCTS

Our commitment to total customer satisfaction is proven with our consistent investment in product development. Our AMCA accredited lab uses modern testing techniques to guarantee fan performance and reliability.

INLINE FANS

Duct Fans Industrial Duct Fans Tubeaxial Vaneaxial Vaneaxial Fixed Pitch Direct Drive Vaneaxial Fixed Pitch Vaneaxial Adjustable Pitch Tubular AcoustaFoil™ **Propeller Fans**

CENTRIFUGAL FANS

Forward Curved Backward Inclined Radial Radial Tip **Pressure Blowers**

CUSTOM FANS

CENTRIFUGAL **VENTILATOR FANS** General Purpose Fans Square Fans

Junior Fans **AXIALVENTILATOR PRODUCTS**

Upblast Roof Ventilators Hooded Roof Ventilators Centrifugal Roof Ventilators

PLENUMS AND DOUBLE

WIDTHS Airfoil Plenum Cube Array Plenum Fans Backward Inclined DWDI FA / EZ Plenum Forward Curved DWD

FIBERGLASS REINFORCED PLASTIC FANS

FRP Fume Exhauster FRP General Purpose Fume Exhauster **FRP Pressure Blower** FRP Radial Fume Exhauster

PROCESS HEAT OR

PLUG FANS Air Kits Plug Fans OEM Wheels and Cones

FAN COMPONENTS

SILENCERS/FLEXCONNECTORS

STEAM COIL PRODUCTS Unit Heaters Steelfin Coils

REPLACEMENT PARTS

AFTERMARKET SERVICES

Our technicians are highly qualified in repairing, rebuilding, modifying and retrofitting any manufacturer's equipment. Fan assemblies can be tested in the field or at our lab for air, sound and vibration problems.

Field Services Repair & Rebuild Aftermarket Retrofit Replacement Parts Preventative Maintenance **Engineering Analysis**

Testing Capabilities Balancing Capabilities

WORLDWIDE PRESENCE

Our extensive operations include over 490,000 ft² of manufacturing space in the United States, and over 200,000 ft² internationally. The map shows both manufacturing and representative offices worldwide.





THE NEW YORK **BLOWER COMPANY** 800-208-7918 | nyb.com

MANUFACTURING LOCATIONS UNITED STATES

Ashville, NC

Effingham, IL

Leitchfield, KY

New Castle, PA

LaPorte, IN

INTERNATIONAL

Australia-Melbourne China-Kunshan China-Sugain New Zealand–Auckland New Zealand-Wellington Philippines-Manila Singapore Taiwan-Taipei Vietnam-Ho Chi Minh City